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ABSTRACT

To assist principals in developing a better understanding of their role in improving the quality of vocational education in their schools, 85 principals attended a 5-day institute during which they considered ways and means of successfully implementing vocational education as an integral part of the total school program. Major presentations were: (1) "The Emerging Needs for Vocational Education" by H. Dye, (2) "The Essential Elements of a Developmental Program of Occupational Education" by G. Bottoms, (3) "Emerging Curriculum Patterns of Career Education in the Elementary and Middle Schools" by J. Smith, (4) "Emerging Curriculum Patterns of Career Education in the Secondary Grades" by E. Word, (5) "Problems and Issues in Developing a Career Curriculum" by H.T. Singletary, Jr., (6) "Patterns for Interlocking the Occupational and Academic Curriculums" by I. Dickerson, (7) "An Interlocked Curricular Approach to Education" by N.R. Frantz, Jr., (8) "Project Management: The Principal's Role and Responsibility" by D. Hogan, (9) "Alternative Patterns of Scheduling" by R. T. Guillebeau, (10) "Accountability: Management by Objectives" by R. Luckie, and (11) "A Management Strategy for Producing Curriculum Change" by D.J. Mullen. Responses to an evaluation of the institute are included. (SB)

ED 080761

INSTITUTE FOR PRINCIPALS

PLANNING AND IMPLEMENTING PROGRAMS IN VOCATIONAL EDUCATION

VT 021 173

THE UNIVERSITY OF GEORGIA / ATHENS
College of Education
Center for Continuing Education

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INSTITUTE FOR PRINCIPALS

PLANNING AND IMPLEMENTING PROGRAMS IN VOCATIONAL EDUCATION

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Proceedings

INSTITUTE FOR PRINCIPALS
PLANNING AND IMPLEMENTING PROGRAMS IN VOCATIONAL EDUCATION

Director of the Institute - C. W. McGuffey

Assistant Director - Marshall K. Tribble

The University of Georgia
College of Education

July 6 - 10, 1971

Held at

Georgia Center for Continuing Education
Athens, Georgia

This Institute was conducted pursuant to a grant from
the Georgia State Department of Education.

FOREWORD

The purpose of this Institute was to assist the principal in developing a better understanding of his role in improving the quality of vocational education in his school.

The materials included in this report are the lectures and presentations made by staff members and visiting lecturers for the Institute. These materials are reproduced for the purpose of giving a wider distribution to concepts and ideas regarding the need for vocational education. The Institute was held July 6-10, 1971, at the Center for Continuing Education in Athens, Georgia. Five days of work and study involved eighty-five principals in a consideration of ways and means of successfully implementing vocational education as an integral part of the total school program.

The objectives of the Institute included the following:

1. To assist principals in gaining skills and understandings essential to planning, developing, and implementing a more adequate program of vocational education.
2. To discuss alternative approaches to interlocking the academic and vocational curricula.
3. To present alternative strategies for the implementation of sequential developmental programs for vocational education.
4. To familiarize principals with exemplary ongoing programs in vocational education.
5. To present selected management concepts and practices relating to the administration of vocational education grants and projects.

Many persons provided assistance in the development and management of the Institute. The lecturers and consultants who made presentations are listed following the title of the topic which they presented. Their services in assisting with the Institute are deeply appreciated. Others assisted materially in the management of the Institute program. We gratefully acknowledge the help of Mr. Marshall Tribble, Graduate Research Assistant, Mr. Paul Kea, Conference Coordinator, Dr. Gene Bottoms, Mr. Ed Word, Mr. Gerald Klein, Mr. Albert Price, Mr. Ken Reynolds, Mr. Paul Madden, Mr. Jerry Scott, and Mr. Don Hogan for their assistance. Acknowledgement of the assistance of the Advisory Committee is given also. The Advisory Committee membership for the Institute included Dr. Charles McDaniel, Dr. George O'Kelley, Mr. Gerald Klein, Mr. Don Hight, and Dr. C. W. McGuffey. The editorial assistance of Mr. Richard Lane is gratefully acknowledged.

Participants were generous in their evaluation of the Institute program. Most persons completing the evaluation instrument indicated a commitment to take positive action toward the improvement of the curriculum of their schools. If this takes place, then one of the basic purposes of the Institute will have been accomplished. We are grateful for the interest and enthusiasm of the Institute participants.

C. W. McGuffey
Institute Director

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THE EMERGING NEEDS FOR VOCATIONAL EDUCATION

Col. Harold Dye

Deputy Director
Department of Industry & Trade
Atlanta

It is a pleasure for me to be here and to talk on this subject. I believe technical education is absolutely essential to Georgia. I use "technical education"--you earlier used "vocational education"--to speak about the training that makes it possible for us to fill our industrial needs.

Please do not think I am talking down to you, as I review some very basic facts with you. These are things that we all know, but in order to talk on this subject, we perhaps need to refresh our minds.

There are only two ways to produce wealth in the world today. Now that is a shocking statement to most people, and a lot of people say that there must be more than just two ways; but there are not. The first way to produce wealth is by the production of raw materials, by farming, mining, fishing, cutting timber, and so on.

This wealth-producing means gives a product that has an average value in the United States of approximately 15 cents a pound. Many raw materials have a much greater value than 15 cents, many a lesser value. But considering cotton, corn, peanuts, oil, kaolin, coal, and all the others, whether agricultural products or minerals, the average is still approximately 15 cents.

When a farmer produces a crop, he can determine his profit by subtracting his production costs from the sales price. He buys or rents the land, pays taxes, prepares the ground, seeds, fertilizes, cultivates, perhaps irrigates, gathers the crop, and does many other things, all of which make up his production costs. At best, his margin of profit between the production costs and the average sales price of 15 cents is but a few cents. And even these few cents can be wiped out by droughts, floods, and many other acts of nature, or at the market.

The farmer uses hundreds of acres of land and only a few people and considerable time to produce goods. In fact, farming offers a very poor "jobs to land usage" ratio. As a result, the agricultural community is thinly populated with few job opportunities and consequently loses its young people to other areas where jobs are available.

Iowa, with the finest agricultural land on earth, for many years lost the cream of its population to other areas, particularly California, because it could not, or would not, offer job opportunities to enough of its young people. We in the Southeast have suffered in the same way as Iowa, only more so, because we have not been blessed with 15 feet of top soil as has Iowa; and we were burdened with a one-crop economy and with other handicaps.

Now let me take this one step further. In modern times, in fact since the Industrial Revolution, no nation has been able to successfully exist solely as a producer of raw materials. If a nation had only an agricultural economy, it ceased to exist; or, at best, it existed at the expense of some other nation--either as a vassal state or as a colony.

In parts of the United States, particularly in the Southeast, we for many, many years had an agricultural economy, and we were tied to it. The result? We had a low standard of living because we had such a small margin of profit. This gave us a poor tax base and very limited tax dollars. And even though we put a much bigger percentage of our tax dollars into schools in the Southeast than in any other part of the United States, we were still way behind when it came to actual school dollars per student. Limited school dollars gave us poor schools and poor graduates or no graduates at all. We developed no capital foundation and, therefore, paid our interest money to the money lenders of the North. We perpetuated ourselves in a cycle of poverty, one which persisted because we were shackled to the soil. We were vassals to other areas of the United States. We were the Southern Colony.

Now let us get away from farming and mining for a moment and talk about the second means of producing wealth: manufacturing, taking a raw material and with machinery and with hands and minds of men changing the material to make it into a more valuable product. The average cost of a pound of manufactured material in the United States is approximately 65 cents. The average is made up from watch springs costing thousands of dollars a pound, automobiles at a dollar or so a pound, peanut butter, candy, paper, and thousands of other items.

The manufacturer's margin of profit, like the farmer's, is determined by subtracting production costs from the price for which the finished product is sold. When a manufacturer brings 15 cents a pound of raw material into his plant and there processes the raw material in some way so that its value is raised to 65 cents a pound, he has added a value and a possible profit of as much as 50 cents a pound. Obviously, the manufacturer's possibility for a large profit is much greater than that of the farmer.

Compared to the farmer, the manufacturer uses a small amount of land for his factory and uses a much larger number of workers to process his goods. The manufacturer offers a very good "jobs to land usage" ratio, which means the manufacturing community will be more thickly populated. There will be many more job opportunities, more take-home pay, and a much better tax base. More money can be put into schools and other governmental services. Better schools will produce better students and better workers. All this helps to establish a substantial base for more industry which will in turn require services: banking, legal, medical, recreational, and many others. They all help to push the economy even higher.

Ever since the Industrial Revolution started, the production of manufactured goods has begun to take over and enter into the overall economy of any developing nation. Those nations that did not develop or are not developed were and are dependent solely on one form of producing wealth--"the production of raw material," usually some form of agricultural. Even South Africa with its abundant wealth, gold mines, and diamond mines has found that it cannot produce enough raw materials to have a viable economy unless it in some way gets into the manufactured business and reaps the profit that comes from the production of the "sixty-five cent items."

Let us look at this another way. Looking at South America today, we see many nations that are underdeveloped or in the process of developing. Their per capita income is extremely low and their standard of living in general is very bad. They look up here at us and do not think of us as those lovely Americans. They refer to us as "gringos" or in some other derogatory terminology. Why? Because we have by one means or another been producing manufactured goods for many years.

We have taken the raw materials from South America, brought them to

America and produced manufactured goods, then done something which really ruins their economy--sold the manufactured goods back to them. They have had to pay the difference between the sales price of raw material and the purchase price of the manufactured goods. And they have suffered; the 15 cent to 65 cent ratio will not work out if you happen to be on the 15 cent side. You can pick out any nation on the face of the earth and see this.

Nations that are caught in the position of producing raw materials only will go to any extreme to get themselves out of such a position. This has been a reason for many wars in the past; underdeveloped nations had to fight to break the poverty cycle. You will not find many history books telling you that wars have been fought to obtain manufacturing; but you will find books telling you that most wars are fought for economic reasons, and manufacturing is the base of economic reasoning.

Let us look at this from another point of view. What about Georgia? Can we compare ourselves with the developing nations of the world? We certainly can. We have been in the same identical boat with those nations. At the end of the War Between the States, we suddenly realized that King Cotton was not going to restore an economy that had been destroyed by the War. Then how were we going to build a new economy? We had no real wealth and we were in opposition to the manufacturing economy which existed in the northern half of the United States. The people in the northern half of the United States had read their economic books; they knew what had won the war for them and knew where their wealth had been made. They knew that they wanted to stay in the manufacturing business, that they could maintain a high standard of living producing manufactured goods if they could at the same time maintain a source of raw materials. For almost one hundred years, we produced raw materials down here and shipped them North. They produced the manufactured goods and sold them back to us. During all that time we made no real progress.

Let us reduce this one hundred years to the forty-year time frame in which we have lived. In 1930, the per capita income in Georgia was $340. In that same year, the United States average was $700. It does not take much figuring to realize that $340 is less than 50 per cent of $700...so for every dollar that we could spend in Georgia in 1930, the rest of the United States had over two dollars to spend. It meant that the rest of the United States had a better purchasing power and a better tax base and, in effect, was twice as well off as we were in Georgia.

Our low per-capita income had a decided effect on everything we did in Georgia. We had poor roads and poor health facilities. We had poor institutions for the correction of our mental problems, and our jails were full. We had no state parks, and our streams ran red with top soil. Our infant mortality rate was the highest in the United States. We had pellagra, malaria, and hookworm. We were poverty stricken and were losing our bright minds to some place that offered more. We, individually, and as a state, were really hurting.

In 1930, we spent a greater percentage of our tax dollar on education than any other state in the United States. Although a greater percentage of our tax dollar went to education in Georgia in 1930 than in any other state in the United States, only Mississippi, Arkansas, and South Carolina, out of all the states in the Union, spent less in actual dollars per pupil. We were at the top in percentage but near the bottom in real dollars. Even though we had the desire to educate our children, as indicated by the fact that we were putting a greater percentage of our tax dollars into education than anybody else in America, we could not establish a real educational system.

But things have changed. In 1970, the per capita income of Georgians was over $3,250, a gain of almost 1000 per cent between 1930 and 1970. That is almost $3,000 more to spend this year by each Georgian than in 1930; and instead of being less than 49 per cent of the national average, we are now over 83 per cent.

Today our greatest goal for Georgia should be to continue the improvement of our per capita income so that it will not be too long before we reach 100 per cent of the national per capita. Those will be the days when we will have the money to have good schools, good hospitals, good roads and parks, and everything else. We do not have to make those gains at the expense of some other section of the United States; we can gain because we are taking full advantage of both systems of producing wealth. If we take full advantage of both systems for producing wealth, we have to take full advantage of every man, woman, and child in the state to teach them to do something for and in relation to the development of both wealth-producing systems, and all of the related things that go with them. All jobs are in one way or another related to the two systems.

There would not be an effective lawyer in the state of Georgia today if we did not have manufacturing industries. Our lawyers would be handling nothing but poverty cases, and they would not be paid. For the same reasons, there would be very few doctors with time to experiment and improve themselves. I had an uncle who was a doctor in Roberta in the '30s. I think he was the best doctor who ever lived, but he died at the end of the depression, largely because he had seen what poverty did and could do nothing about it. He treated an awful lot of people and got paid off in a lot of chickens and a lot of hams and a lot of other stuff like that--but not in dollars.

Now that we really know the importance of manufacturing to our state, let us look at what we have to do to obtain this means of producing wealth. There are four things that you must have to get into the manufacturing business. First, you must have a distribution system. Second, you must have capital to start your plants. Third, you must have a market. And fourth, you must have people to work in your plants. I would like to talk about each of these factors for just a moment.

Distribution is the one that held us down for so long. The northern half of the United States wanted to protect their manufacturing businesses, and, as you know, they forced differential freight rates down our throats. We had to compete by paying about 25 per cent more to send a piece of manufactured goods north than the northern manufacturer paid to send the same goods south. I laugh at that period of history now that it is over with. I look back and say, "How did they do that to us?" As you will find out, we helped do it to ourselves. We valued our agriculture, our cotton, too highly and we did not look into the matter strongly enough and fight it hard enough. Some people even thought the initial freight rates were to our advantage because we could ship cotton north cheaper than they could ship it south.

Some people still do not realize that it was 1954 before we could ship manufactured goods north and west as cheaply as they could ship them into our area. It took us that long to realize what was happening and to get court rulings that would make it possible for us to be competitive.

When I was in high school back in the thirties, we had a history course in international relations with particular emphasis on tariffs. One day my professor called me in and said that he wanted three of us to go out to a local steel fabrication plant and get a box of bolts which he had ordered. We were to take the box of bolts down to the Atlanta freight depot and ship it off to a friend of his in Chicago.

The box was about eighteen inches long, eight inches wide, and eight inches deep. It was sealed with a wire around all sides and had the words "Machine Bolts" burned into the top. We prepared the label for shipment to Chicago and paid one dollar for freight charges--one dollar. We reported back to class and told the professor that we had made the shipment and promptly forgot about it.

About four weeks later he called us in and said, "Go get the box of bolts." All the way out to the depot, we thought we had done something wrong in the labeling of the box, but we quickly found from the label that the box we picked up was from Chicago. We took it back to the classroom and placed it on the desk in front of the professor.

His first question was, "Is that the same box of bolts?"

We answered, "Yes, sir, it's the same box of bolts."

He asked how much it had cost to ship the box to Chicago. We remembered the cost because we had all collected the money by small contributions from the class, and we answered, "One dollar."

"How much did it cost to ship the box back from Chicago to Atlanta?" he asked. "But wait. Before you answer that question, are you sure that this is the same box?"

We checked the wire seal, felt the box for weight, and found everything to be the same. "Yes, sir," we replied, "the only difference is the label on the box."

He questioned, "How much did it cost to ship the box from Chicago to Atlanta?"

The answer was on the bill of lading. There in the upper right hand corner, written in blue crayon, was--"75¢."

Then he quietly asked, "If it cost you one dollar to ship the bolts from Atlanta to Chicago, why did it cost only 75 cents to ship the exact same thing from Chicago to Atlanta?"

That is a good question, a very good question. The railroad runs in both directions on the same road bed, with the same engineers, the same costs. Why the difference? We know the answer now, but we did not then. We know that a good distribution system is vital to manufacturing, and we know that manufacturing is vital to our economy.

Capital is the second important requirement for manufacturing. You can have all the ideas in the world, beautiful ideas about how to solve problems and build things, but when you start putting the dollars on the line to implement these ideas, you find that the dollars run out in a hurry. We all know this fact. You must have capital to develop any method of producing wealth.

In 1954, the same year that the freight rates were changed by the Supreme Court, an airline in Atlanta got a loan of $15,000,000 from four Atlanta banks. The Atlanta newspapers had headlines that this was the biggest loan ever made by any combination of banks south of the Mason-Dixon Line. New York banks made loans like that every day but not banks in Georgia or anywhere in the South. That loan made it possible for the airline to program its entry into the future, and the airline went on to be one of America's great airlines.

The point I am making is that it was not until 1954 that a loan of that magnitude could be made and then only by combining the assets of our four banks. In 1967 the same four banks loaned the same airline 176 million dollars, and in November 1968 an additional 49 million dollars, and just recently another 50 million dollars, for a total line of credit of 275 million dollars as of this moment. That is a tremendous thing. The airline can build for a great future and help Atlanta and Georgia and the South prosper. It also shows that capital is now available in Georgia and in the South where it has not been available before. Now the interest will stay at home and capital will be available for other ventures.

This capital availability did not occur because we suddenly found money; it occurred because people put money in the banks, sometimes saving when it hurt to save. It also came about because we had developed other means of making capital available for industry, such as revenue bond financing. So we did get the capital base started even though it is not yet like we want it. There are still those who cannot get the financing to develop an invention of some kind or start a plant. I talk to two or three people a week who would like to get money to start something but cannot do it. We are not in the banking industry in the Department of Industry and Trade. I wish we did have a few million dollars to loan out at some special rates, but we do not, and that is too big a subject to cover today.

I have mentioned two development factors so far, distribution and capital. Now let me talk about a third, the market area. In the South at the present time, within a radius of say 500 miles of Atlanta, there are 41 million people. If you manufactured a product anywhere in North Carolina, South Carolina, Georgia, or anywhere in the area, you could sell that product to 41 million people. Of course, there were days when there were not that many people in the entire United States, and in those days our sales potential in the South was very low. There is a challenge to laying claim to a large market. If we have a market of 41 million people, we mean 41 million people who have purchasing power. Even though the average per capita income in the South is below the national average, it is still substantial. Many in our area are way below, however, and they are not really part of the market, because they cannot buy anything. We need to improve the purchasing power of everybody within this great area so they can all buy something. This is not only in the sense of charity but also for economic reasons.

I do not know how many of you have ever given a turkey to a needy family for their Christmas or Thanksgiving dinner. If you have, you probably remember that the children did not look at the father seated at the end of the table. They ate the turkey in silence; they perhaps enjoyed it. It was one meal for them, maybe two or three meals, but father had not provided the turkey. He kept his head bowed as he ate. I thought when I was doing this as a boy, as a part of our charity programs in the churches and the schools, that we were doing a great service. We were, too, because the families were hungry. But at the same time, we were not solving the real problem.

Let us look at it another way. Give the man a job and let him buy the turkey or whatever, and let him put it on the table at Christmas or Thanksgiving. The children now look at father because father provided the meal. Charity? Yes, but so much better--giving the man a job or, better still, providing a job that the man could fill.

Providing a job and providing a man to fill the job leads us into the fourth requirement, that of providing people to work in our plants. We have not always been blessed with great workers in Georgia, but we have been blessed with people who want to do a job. A little while ago, I talked to an official in one of Georgia's most sophisticated manufacturing industries. He said he would guarantee that the workers in Georgia had at least 25 per cent more desire to do a job than workers anywhere else in the thirty-nine states where his company had plants. People down here still have the desire. If we could couple that desire with know-how, we would have an ideal situation.

In Berlin, Germany, about three weeks ago, I talked to an electrical manufacturer. Most of you know of Siemens, one of the big manufacturers of the world, the General Electric of Germany. In Berlin alone, Siemens employs 32,000 people, about 7,000 of whom are foreigners. That means that in Germany they are so bad off for workers that they have gone into Turkey, Spain, Southern Italy, Yugoslavia, and other countries and imported into Germany over two and one-half million workers. They did this because their economy is bursting at the seams, and Germans can no longer fill the jobs. These two and one-half million workers used to work on the Autobahn and in manual labor jobs, but now they are working in the plants. In a few years, many of the two and one-half million workers have been upgraded so that at Siemens about 7,000 of them are helping to build the hardware for computers, typewriters, solinoids, reactors, all sorts of electronic components. Complicated things that I did not even recognize on the assembly line were being built by people who spoke Turkish, Greek, Spanish, or Italian--in Germany. They worked right beside each other, and some of the directions for running the machinery were written in five languages, but I could see no problems.

Siemens also employs handicapped workers. Berlin has many handicapped workers as a result of the war, but they do a good job. A Siemens vice president told me, "Our foreign workers and our handicapped workers are working at full speed and full time, and doing a good job, but our own workers, because they can go and get a job next door and because of a few other things, are beginning to fall off. We may have to move part of this plant somewhere else." I immediately answered, "I know the place for it."

Could you move the plant to Atlanta, or to Athens, or to Savannah, or to Columbus and find five or six thousand qualified workers to go to work immediately or who could be trained to go to work in the electronics industry? That is a good question. But I am not going to answer it. Just think about such a question. If we had such an opportunity, how and where could we supply the workers?

We can solve the problems of distribution, of markets, and of capital, and even provide a good place to live. But can we produce the people to work in the plants? That is a real problem, and it is one that is a growing problem.

On July 4th, I went to a picnic over at Carrollton, Georgia. I am sure that some of you are familiar with Southwire. It happens to be one of the fabulous companies in Georgia, a homegrown product. In 1953, Southwire bought their own fleet of trucks to distribute their goods and to beat the differential freight rates so they could produce wire in Georgia and sell it up north. To begin, they built a company to produce aluminum wire. They now produce several hundred million dollars worth of goods a year. They are now international; they sell know-how, and many other things.

One of the things that they did at their picnic was to make an award to Mr. Jim Wright. Jim Wright had attended and graduated from a vocational school in Carrollton and gone to work as the first machinist for Southwire when they started doing their preliminary work to establish the plant in 1951. On the 4th, they presented him with a beautiful plaque, and the president of Southwire said, "Without Jim Wright and a few other followers, Southwire could never have been built." Jim Wright, as far as I know, is the first technical worker educated in our Georgia schools who has received such recognition.

Jim Wright may have been the first, but there are others like him. In 1968, I read an article in The Atlanta Journal, and I always will remember this article. It said that Lockheed had sent 4,100 workers or prospective workers to Cobb Vo-Tech so that they could either learn a job, up-grade the skill that they already had, or change their skill. I thought it was amazing that one school would take 4,100 people from one company and change them or up-grade their skills so that they could improve their job skills. But that was not all. Their take-home pay had been increased by over $28,000,000! Do you know what that means? That means that one school in one year was responsible for $28,000,000 in take-home pay, while the whole system of twenty-four vocational-technical schools had cost only $50,000,000. That story is told over and over again in Georgia, not in that big a number, because not many companies employ that many people in Georgia. But each school is doing its part. I would like to tell everyone in Georgia about Cobb Vo-Tech and say, "Look what they did."

Three years ago, I visited a plant in Georgia and while there talked with the personnel director to see what, if anything, the Department of Industry and Trade could do to help this company with problems. His company employed something over 700 people in all levels of jobs, from sweeping to operating complicated machinery.

To get the 700-plus workmen, they had screened 3400 applicants before they found workers who were qualified to do the job or be trained for the job. I would like to tell you what the personnel man told me. He said something like this: "Every person that has been to us and that we have tried to employ from the technical school system and everywhere else was motivated and wanted to do a job, but we found that while they were skillful with their hands and had all the dexterity needed many of them could not read."

I stopped and thought about that for a minute. What did he mean, could not read? He was talking about high school graduates in most cases. Yet he was telling me that 2700 out of 3400, the majority of them, failed on the job because they could not read. He said, "Absolutely right." They could not read well enough to take the examinations or understand directions for running the machinery.

As a matter of interest, that company is very happy with its workers and the technical school system. I tell you this for several reasons, but one is to point out that 2700 people still need some form of schooling. I should say that there is a potential of 2700 workers in that area of Georgia alone, if we properly train them.

A curriculum and a school system must take into account the fact that a great majority of people need to go to work at an earlier age than that at which they are graduated from college, that they need to go without any stigma attached, and that the community, in order to develop, needs for them to be educated early. They need to go with the full realization that if they can study and do the job and lift their standards of living they will lift the standard of living of all Georgians and will help this great state of Georgia take another step forward. Everyone ought to be in a position to say, "I have a great job, I am doing it well, and I'm looking for an improvement in my job so I can make more money. I'm not being stigmatized or handicapped because I didn't get to go to college."

Truck driving is an honorable profession. Yet if a student tells the average grammar school teacher that he hopes to be a truck driver someday, she is apt to look a little shakey, because she does not know anything about driving a truck and she does not understand how a man could be interested in being a truck driver. I suppose if some student were to tell her he wanted to be a punch press operator she would pass out right then and there.

This is the problem that faces most of our schools. People do not know the value of some jobs that are just as exotic and just as satisfying as being a surgeon, some of which require the same kinds of skills and techniques. Our whole system is supported by the people filling these jobs. People at the top, or rather we should say, those who think they are at the top, are not going to stay there if no one supports them.

I have been fortunate enough to travel about the state quite a lot, especially in these last four years. I have talked in many communities about what I consider the biggest problem facing Georgia today when it comes to bringing an industry into a particular community--the availability of a trainable labor force. There is nothing as important as a trainable labor force. If we could insure the Berlin manufacturer that we could supply him with 5,000 trained workers to do the job, there would be little doubt that his plant would be knocking at the door. I do not believe that we could assure him that two years from now we could furnish him with that many workmen, because in the meantime seventy other companies would come in and grab all that had already been trained. The development of our work force is essential to our development, and the development of a technical work force is right at the top of our requirements.

We, in the Department of Industry and Trade, realize the problems facing you. We know that the money does not flow out of the State Capitol in such a way that you can equip every school the way you want to equip it, and it certainly does not flow from some of the counties that way. Still, the point is that by working with the dedicated educational force at hand, we may be able, without money, to overcome some of the handicaps. We can do this with dedication and by helping others to know some of our values and some of our insight into Georgia's needs.

Let me show you what I mean by letting others in on our insight. The school teacher in an Atlanta grade school who wanted to motivate her young students about their futures needed some insight: When you grow up what are you going to be, John? "A doctor," replied John. And you, Sam? "A lawyer." You, Mary? "A nurse." You, Jim? "A college professor." The teacher complimented each on his fine goals, but when she asked Pete what he was going to be and got "truck driver" as an answer, she said, "Oh no, Pete, you don't want to be a truck driver." From that moment on, Pete did not want to be a truck driver because his teacher, by her talk, had shown that a truck driver was something that just did not fit the situation. Her actions even made Pete wonder about his father who was a truck driver.

At the end of class, when asked, the teacher said she did not know what a truck driver made; but she knew that her $6,000 salary was far larger than his. Some truck drivers make $25,000 a year, and some own their own rigs worth fifty to a hundred thousand dollars. Others do not do as well; but, regardless, truck driving is a very honorable, rewarding profession, and Pete had been made to feel that there was something wrong with what he wanted to be.

This is an attitude of most people, and it needs to be changed. All of us are not going to be college students. All of us are not going to be doctors, lawyers, merchants, and chiefs. A few of us are going to work on the lathes and punch presses, and on the machinery that makes it possible to have all these other things and other professions. The carpenter and brick mason made the operating room for the doctor. The machinist made his tools. The painter decorates his offices, and the canning plant worker helps to feed him.

I started by saying that I wanted to talk about the training that makes it possible to fill our industrial needs. I would like to close by saying that technical training is the key to our industrial development, and our industrial development is the key to our standard of living. I am thankful that we have people like you helping to make the key that unlocks the very first door.

THE ESSENTIAL ELEMENTS OF A DEVELOPMENTAL PROGRAM OF OCCUPATIONAL EDUCATION

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There are about five things I want to try to do in this paper, and all of my objectives relate to the term "career education." Throughout this paper you will see "occupational education," and part--but not all--of it may be vocational education. Let me explain the differences right away if I can. What we are really talking about when we talk about career education is something broader than traditional vocational education, which by law was limited to job-skill preparation. Career education, as defined in the 1968 Vocational Education Amendments, broadens the concept of vocational education to include exploratory activities and other related kinds of activities which I am going to talk with you about. So I want my presentation (1) to define career education as broader than job-skill preparation. I also want (2) to state the reasons for career education and some of its advantages, (3) to describe a career education program being developed in some parts of the state and the kind of program that we are attempting to build, (4) to recall some of the resources for assisting local systems in implementing various parts of a career education program, and then last (5) to state how the concrete career experiences at various levels of education can be integrated with academic education or general education or the basic educational skills that an individual has to have in order to function in our society.

These are my five objectives, what I am going to try to accomplish. I think you may have some questions, but I will try to identify some of the questions and attempt to answer them as I go through the presentation.

Career education, vocational education, occupational education, or whatever you want to call it, can provide educational experiences that are meaningful for an increasing number of our students. I was interested in a quote made by a fifth-grade teacher who was participating in a career education project. She stated: "A career education program serves as an enrichment program for the advanced student, stimulates new interest in the subject matter for the average student, and provides enjoyment and a greater desire to achieve for the slow learner."

When you look at the outcomes of education in our state, it is not difficult to see the need for career education. Let us consider three or four facts. I do not know whether we lose 50 per cent of our students in grades one through twelve, or whether it is 40 or 35, but regardless of how many it is, it is too many.

Secondly, in this country, the unemployment rate for black youth is right at 50 per cent, the unemployment rate for all youth being about 28 per cent. That should tell us something about a group of youth in our society who are having difficulty in moving from school into the world of work. We have in our state (and these are facts substantiated by the last census) over one million people who live in families that make less than $4,000 per year.

I do not know whether you have thought recently about trying to live on $4,000 a year or not, but it is pretty difficult. And one common denominator these people have is that they simply do not have a proper education; they lack job skills.

In May there was an article in Time magazine which reported that a large number of college graduates were not being employed because jobs were not available. What really disturbed me, however, was the attitude of many college graduates who said that they would just roam around the country for a couple of years before even seeking employment.

We may have a time in the future when many people will not work for a living, but as yet we have not come to a time when adults know how to make use of their time without using part of it in working activity. When you look at the subculture developing among our middle class youth, our college oriented youth, and our college graduates, who seem to say "I don't want to work for a living, I am going to move into the inner city, and I am going to separate myself from the flow of work," you have to begin to ask what has caused this. These are not the poor kids that you find in Atlanta in hippie areas. These kids are, for the most part, pretty well-educated. So I think we have to ask some questions here about the need for career education.

These three or four facts seem to me to indicate a need. It is not that schools in this state have not drastically improved over the past twenty years. There is no comparison between secondary schools now and twenty years ago; a tremendous improvement has come about. We have new math, new English, new science curriculums, most of which were designed to make people think like scientists and mathematicians. But most people are not going to be those things. We have drastically improved the quality of education if a young person plans to pursue higher education. But it seems to me that with the vast improvement in education in this state, changes have not come fast enough to take into consideration the change in the economic structure of our society and the kinds of skills that people must have to move into jobs that will provide a decent living. So what we are talking about is bridging the gaps that exist between students' school experiences and the real world in which they must live, because many of them lack the competence necessary to develop and manage their own lives.

What is career education? It is broader than what vocational education has been in the past. It is different things to different people. Most traditional vocational educators state that it is a new word for vocational education. The general educator will say that it is something that does not include job skills (and that is what Marlin recently said in a speech), that instead it is career orientation: it is teaching traditional subject matter within a career context. A counselor will say it is a career day, an occupational library, or training on how to apply for a job. Industrial arts teachers will say it is what they have always been doing. The career development theorist says it is the body of objectives and content that must be organized into the curriculum. To some, career development allows students to have simulated or hands-on experiences in actual work settings. To others it is an interdisciplinary curriculum which organizes and integrates career-oriented experiences and the basic academic skills. I think career education is all these things and much more. I would define it as a new step for education that places as much emphasis on education for earning a living as we currently place on education for living. I contend that about half of the people in our society can do very little living unless they can earn a living; and it is time we gave equal focus to that aspect of man's life. I do not know why most people pursue undergraduate degrees and masters degrees or even higher advanced degrees, but one of the major drives behind my degrees was simply to be able to earn a better living.

The point that I am trying to make is that career education is not just helping a particular individual make specific decisions to enter a vocational program, nor is it just teaching decision-making skills; rather, what we are trying to do is to provide an individual with the kind of education that helps him enter the world of work and helps him make those kinds of decisions that make it possible to continue to progress in the world of work.

I would like to look very briefly at some advantages of career education to the student. By career education I really mean building a theme into the program from kindergarten through grade twelve in which students see a relationship between their educational experiences and their role as a worker at some future point in our society.

One of the advantages of career education is that it can provide many students with a reason for learning. Let me illustrate this point with a couple of examples. Recently an eleventh-grade student (enrolled in an interdisciplinary education program in which math, science, and English were being correlated with an electronics laboratory) made a remark to me. He explained that his attitudes and grades had changed because the new program enabled him to see why he should acquire essential academic skills of math, science, and communication.

A disadvantaged student enrolled in one of the Coordinated Vocational and Academic Education Programs (CVAE) in this state said he could now see how his studies were preparing him for the future, rather than forcing him to mark time in unnecessary courses that were preparing him for nothing. So letting students acquire math and science skills in a context of career activities helps them to see a reason for learning these competencies.

Second, career education causes students to begin thinking about their futures. If it is not natural for a junior high school student to want to think about what he is going to be when he is an adult, it is not natural for him to want to learn math, either. For a long time we said that youngsters at the junior high level were too young to think about careers, but one day I looked at the figures in this state and discovered that about two-thirds of our dropouts occur at the ninth and tenth grades. Now they may have been too young to make choices, but they were making choices, and that choice was to leave school.

Third, through a career education program students can gain a greater respect for themselves and for others. One third-grade teacher noted that a student who had never been able to achieve very well in school became known as the person in the classroom who turned out to be the best hammerer and sawer in the school. She stated that as a result of a construction project this student's attitude toward school and the attitudes of other students toward him changed. Oftentimes we limit the kinds of learning activities we have in school to those that deal only with the book, and for that very reason we are denying many students an opportunity to achieve.

I think career education has some advantages for teachers also. Many teachers have been asked by students, "Why should I pursue math, why do I have to take English, why do I have to learn English grammar?" One first-grade teacher pointed out that in a career development project in her classroom the students built and operated a post office within the classroom. Before students could sort the mail and deliver it to the other classrooms, they had to learn to recognize numbers. She points out that this motivated every student in that classroom to learn to recognize numbers so they could work in this particular post office.

Over the years on carrying secondary teachers on tours through post-secondary technical schools, I have been amazed at the expressions on their faces when they go through an electronics lab, for instance, and see a student (who failed math in high school) explaining algebraic equations. Here was a youngster who could see a relationship between math and earning a living and performing a particular work task. So math, science, and communication skills are tools that man uses in earning a living, and through career education programs students can begin to see how these skills and concepts can be education for something rather than education for nothing. They can see how they relate to the world of work.

A career education program motivates students. Next year we will have about four thousand students enrolled in the CVAE program across the state, and these are all potential dropouts. We have not been successful with all of them, but the fact that has impressed me is that, when we enroll them for the first year, the absentee rate for these students goes down 50 per cent, the letter grade achievement goes up one full letter grade, and the number that state that they plan to finish high school increases substantially. For the first time many of these students can see a reason for learning; they can see a relationship between school and a work role they will eventually fill.

The last advantage of career education seems to me to be that career education offers to the teacher another method of teaching. It makes for learning by doing as opposed to learning vicariously. We know from the work of psychologists and others that, in terms of the mental development of individuals, there are about three stages in mental development. One goes from thinking of things to the ability to use words or symbols to think about things to the point where he can draw generalizations using these symbols. We also know that there are large numbers of students in our public school systems who never develop to the third level of development--or even the second level. It seems to me that career education offers a teacher the opportunity to teach basic math and basic communication skills by a new method in the context of career activities.

Maybe I can illustrate the point. You can teach some students about how to use a ruler through a lecture method, but the best way to teach most students about a ruler is to let them use a ruler. That is the point that I am trying to make. For years most of us memorized the parts of speech, but I still cannot call them off to you. We never do learn how to communicate--speak, write, listen, read. So career education opens up a whole new vista of learning activities for the teacher in teaching basic academic skills. The English teacher who forgets about certain subject matter content for tenth-grade students and begins to tie it to certain career activities to teach kids the four basic ways of communicating will probably be more successful with some students than he would in attempting to teach the traditional English content and approach.

What are the advantages of career education to the school? Let me mention briefly three or four of these. Career education helps to create a school climate in which the staff takes equal interest and pride in assisting each student in shaping his career life. To a large extent right now, the academic teachers are responsible for preparing students to go to college, and the vocational teachers are responsible for preparing students to go to work. All teachers are responsible for preparing all students for their next step. So I think career education will begin to create this kind of emphasis.

Public education could be held accountable for insuring that each individual chooses, prepares, enters, and progresses in activities furthering his career life. Career education would make schools have a new reason for being, not only to help the individual make initial entrance into the world of work but also to progress in a career. The school would have a new basis for assessing its success with every student, for learning would be for purposes other than mere academic achievement valued only in the school. I am all for that. It would take on additional meaning--make application of learning in the world of work. It would become a continuing education center for adults; the school would be forced to keep abreast of technological and economic changes taking place in the world of work. It seems to me that career education would begin to build the same bridges between school and business and industry that we have built between the public schools and higher education over the past hundred years in this country.

What are some of the basic principles of a career education program?

1) Career education must be sequentially organized from kindergarten through post-secondary and adult education. For a long time we operated as though a student wakes up at the end of the ninth grade and decides what he wants to be for the rest of his life. How many of you are in the occupation you said you wanted to be in at the end of the ninth grade? How many of you said you wanted to be a school superintendent at the end of the ninth grade? Career development is a continuous process, and you are still in the process of career development. One just does not decide one morning what he is going to be, and yet we design vocational programs and school curriculums as if that were the case. What we are trying to say is that a career education curriculum should help a student even in the elementary school begin to formulate a concept of himself that says, "Someday I will be a worker." This concept should gradually refine itself as he moves on through school.

2) Career education must be organized as an integrated structure within the educational program. It should not be regarded as an add-on course or unit involving only selected teachers. For many students a career education theme can provide a nucleus for making the more general academic aspect of the curriculum more meaningful for many students. I know that we in vocational education have contributed to vocational education's being organized as a separate part of the school. I think this is a point: if we are to have something that is called career education it must be a part of the school, not something separate and set aside.

3) To meet the needs of all students, career education must be flexible enough to allow each student at each educational level to make choices from the broadest base of knowledge, to have access to a cross-section of career curriculum experiences, and to have freedom to move from one curriculum to another. If he selects a construction program at the secondary level and after a half year decides that it is not the program for him, there ought to be enough flexibility for him to move into another curriculum area. Career education cannot become something designed to recruit kids into vocational education at the lower grades. It must be designed to educate all students.

4) Career education is student-centered rather than manpower-centered. If we are not careful, we could operate a career education program as a sort of mining operation in which we are strictly concerned with the collection of certain talents for particular manpower needs, rather than as a farming approach in which we attempt to develop all students. Much of the national legislation through the 1960s was based on a mining approach where we did identify those who had outstanding talents to move into certain kinds of fields.

5) Career education programs must consider the individual's readiness level for career education. Just as in any other form of education, some students are more mature, more able to manage a vocational choice at grade nine, than are other students; and we have to consider this point.

6) Career education includes job-skill preparation.

Twenty of thirty years ago we had in most of the schools in this state, or at least in many of them where some of you were enrolled, the old occupations course in which at junior high school or early high school we attempted to set students down in a classroom and tell them about the world of work in Atlanta or some other place. Career education, if it is to be successful in helping the student begin to see himself as a worker and learn about the world of work, must provide some experiences in which the student can observe the work directly, can use the tools of workers, can use the materials, can use the processes. He must have some hands-on experiences, some experiences on which to tie these things. I am convinced that you cannot just tell a kid what it is like to be a machinist if he has never known a machinist. If he has never been inside an industrial plant, he has no base of experience to know what you are talking about. So the old idea that we will get some occupational briefs and hire a teacher who has never worked at anything but teaching to tell kids about the world of work will not work. It did not work thirty years ago, and we abandoned it.

Career education also includes assisting the student to participate, to enter, to adjust, and to progress on a job. For a student in many Georgia high schools a curriculum is laid out at the beginning of the ninth grade. A student is told that if he plans to go to Tech he has to take certain courses. If he has a good counselor, that counselor is going to arrange for him, at the tenth- or eleventh-grade level, to go to Tech for a visit. If he is lucky, he will meet a representative from Tech who will talk with him. In the eleventh grade, he is going to be told to take a test in order to get into Tech. He is going to be told when to make his application. He is going to be told by every teacher in school that, in order to make a good enough score on the college boards, he must do well in math. Now these are the very brightest kids in our society. I want you to look at how much attention we focus on helping these kids move through the secondary school into college. I contend that it is more difficult to move from rural Georgia into Atlanta and get a job than it is to move from rural Georgia and get into college. The point that I am arguing here is that the school needs to provide the same degree of assistance in moving from school into work.

The last point that I would make as a basic principle of a career education program is that students at all levels must be provided with an opportunity to participate in concrete learning activities that closely approximate the variety of work roles, work settings, and work-life experiences reflecting career life. In other words, they need to have the opportunity for hands-on kinds of activities.

Next I would like to look very briefly at some elements of a career education program that we are attempting to implement in a number of places throughout the state. At the elementary level we will have fourteen elementary schools next year that will be attempting to fuse career-oriented concepts and activities into the existing school curriculum. Teachers will be attempting to fuse three-to-five such activities during a given year's time in major attempts to help these students at the elementary grades to acquire a positive attitude toward work and to provide a vehicle for teaching some of the basic education skills to many students.

At the junior high level about 110 systems next year (110 high schools) will have a program of educational career exploration. Most of these programs are at the seventh-grade level, and in these programs students are carried into the world of work to look at service occupations, businesses, organizational jobs, outdoor occupations, jobs in technology. They make about fifteen half-day trips into the world of work. This program has worked. I will not go into the research data on it, but we have data that show that students who have gone through this program have significantly greater maturity--that is, the ability to make vocational decisions--than do students who have not gone through it. We know that attendance during the time that students are enrolled in this kind of program increases substantially. We know that grades go up. We know that interest in school increases. We do not know if it causes more students to finish high school. Long-term experience will help us to answer that kind of question.

This program is a nine-week training program for the coordinators of the PECE program, and these people spend two days a week during that training program working in different jobs; and many of these people who have gone into the program are men, and most of them are under thirty. I would imagine the average age is under thirty.

There are a couple of patterns that are being followed. For the most part they are working students on a quarter basis. In the city of Atlanta next year these coordinators and a team of academic teachers will completely relate the school program for the entire day for a full quarter around this effort. They will use team teaching and will integrate the curriculum around these career-oriented experiences.

The overriding purpose of this PECE program is not to force the student to make an occupational choice but to open up for the student all the possibilities that do exist.

We have about thirty schools next year that will be following the PECE program. In fact there are about eighty teachers in summer school right now being trained to do this. They will provide students with an opportunity to select from six to twelve weeks to participate in a pre-vocational program. It is our hope that once a student leaves the PECE program in grade seven he can select four of these areas to explore in greater depth. Some schools have hired additional business teachers to implement this program. Others have redirected agriculture teachers, home economics teachers, industrial arts teachers. Let us say a student is interested in health services: he would spend approximately six to twelve weeks, depending on the pattern of the organization, exploring and actually participating in solving some of the problems and performing some of the activities that people would perform in health occupations.

Let me point out that if a school has three of these areas--three from among the list including clothing and textiles, child care, home and institutional management, nutrition, four areas in business, four areas in industrial arts (construction, manufacturing, communication, and transportation) --it can provide students with an opportunity to select twelve broad occupational areas which they can explore in depth for nine weeks. This is a scheduling problem, because what we are advocating is that a student not sign up for any one area for the full year, but that he sign up for a different area each nine weeks. If you take several areas of broad occupations and offer programs with three or four courses within those areas, you are covering the bulk of the occupations in our society. You can help students to try on an occupational area before making a choice. You would not buy a suit unless you tried it on, and this is the kind of thing we are trying to do in this program.

At the ninth-grade level, many schools are following this curriculum with a one-year pre-vocational program. Let me make sure you are getting the pattern. In grade seven a student explores all broad occupational patterns, in grade eight he selects four of these for nine-weeks' exploration, in grade nine he selects one (the one he thinks he is most interested in) for a one-year, in-depth look. Some of the offerings that are being made available throughout the state include health and personal service, public service, food service, home economics-related occupations, office data processing, sales and distribution, transportation, communications, construction, manufacturing, general agriculture.

In grades seven, eight, and nine, the emphasis is on exploration, and a student's trying to figure out what he wants to be. In grades ten, eleven, and twelve, the emphasis shifts to preparing him for what he wants to be, with a secondary emphasis still on exploration. We have developed cluster curriculums in about fifteen or sixteen areas. The student enrolls in these areas at the tenth-, eleventh-, or twelfth-grade levels for two hours a day. At some schools these courses are scheduled as two one-hour courses. There are some students in your school who can learn as much in one hour as it takes another student two hours to learn, so you have a very flexible pattern. Up until the 1968 amendments, most educational programs of this nature in the secondary schools had to be for three-hour blocks, so we have tried to break that down to two-hour blocks, even moving toward the possibility of one-hour blocks.

Also in the tenth through twelfth grades there is still a cooperative educational program. Some schools are just beginning to use cooperative education. For example, if a boy spends two years in a construction cluster, then during his senior year, he could go into a cooperative program and work in a construction occupation and carry something to the employer at that point in time.

Next year we will have at the secondary level about 600 secondary students in grades ten through twelve who are enrolled in post-secondary area schools between the hours of three and five. The school systems have contracted with those post-secondary schools to serve their students between the hours of three and five.

We also have early or advanced placement in post-secondary schools. Next year it is projected that 1100 seniors will be enrolled in area schools on a full-time basis, and procedures are being worked out to provide for advanced placement for students who participate in the secondary vocational program in the post-secondary schools.

Let me summarize by looking at the elements of the career education program. You have heard of orientation programs for a long time. This would be an element of a career education program and it would be designed to assist students to learn about themselves and about the environment. It would be a kind of telling approach, and you can justify this approach because you know that a youngster cannot select an occupation if he does not know anything about it. If he does not know about something he is not free to choose that option. So I would advocate that every subject matter in the school ought to provide some experiences to help the students see the relationship between that subject-matter content and the world of work, and these kinds of activities could be fused into the educational program at all levels.

The second kind of activity would be exploratory in nature--activities to help students at all levels to see whether they really want to go into a particular occupational area. In a chemistry lab, many students who think they are going into a chemistry field are participating in exploratory activity. We are talking about providing these kinds of experiences for all students at each educational level.

Interdisciplinary education, or the tying together of vocational and academic education, makes a lot of sense to me. We have failed to teach the basic educational skills to a large number of students. If we could look at the curriculum patterns in which we attempt to relate the teaching of academic skills, exploratory, pre-vocational, and vocational skills, I think we could teach the basic educational skills to the group of students whom we have failed. What we are literally trying to do is to allow students to apply abstract concepts to concrete problems of a career-oriented nature. There are several curriculum patterns for doing this. The pattern of a horizontal curriculum in which teams of teachers work together seems to be the most successful pattern.

Another element of a career education program would be a career cluster curriculum at the secondary level. A few schools are doing this. You may not buy this concept, but if a student is enrolled in a middle program (and this could be construction or some other program) in the tenth, eleventh, or twelfth grade for two hours in three quarters for two years and for two hours for three quarters another year, he could, for one quarter, be taught reading skills, listening skills, and writing skills (all English, of course) in the context of his particular career area. I am not talking about the full year; the other two quarters he can continue to pursue Shakespeare, etc. I am talking about one quarter. Why not help him to acquire some basic skills within the context of his career area? Why not teach him a special math course one quarter, those math calculations that he must be able to make in order to be successful in his field, and why not have this math teacher work with the middle teacher? There is an awful lot of science that can be taught in terms of strength and durability of materials. Why not teach those essential science concepts, organize a one-quarter course one year, another one the next year? For the other two quarters he can move into the regular science program. No doubt the quarter approach to curriculum organization would help him to implement this kind of program.

I would even advocate a middle social studies curriculum. What if you look at history, world history, in terms of the development of metal? I think you would find a high degree of correlation between advancing civilization and what we have been able to do with metal. Or if you looked at labor unions, there could be some particular tie-in here. Maybe one quarter of career planning.

I am citing the extreme example, but it seems to me that, for a lot of our students in secondary schools, this kind of curriculum pattern would make sense. They still have the time for other aspects of education and education for living and education for enjoying life. This approach does not tie up even half of a student's time for two years. This you could do for construction, and this you could do for most of those clusters identified earlier. The argument could be that what we are really doing is specializing in everything too much. I am not sure that is really the case. It seems to me that every teacher in the school is communicating with every student with whom he is concerned in terms of what he is going to be. The teachers are taking pride in helping him to be that and are giving the same kind of attention to this youngster that they would give to the youngster who is going to Georgia Tech.

Another element of the career education program is intensive specialized short courses. Despite all you can do, you are going to have some students in the secondary schools and junior high schools who are going to leave school as soon as they are sixteen; and you ought to have enough freedom to put them somewhere where they can acquire an entry-level job skill in a specialized area. You may have a girl who, all of a sudden in the middle of the senior year of high school, decides that she is not going to college. The curriculum ought to be flexible enough to allow her to enroll for three quarters of typing and leave high school with a job skill. That is what I mean when I talk about short-term specialized short courses.

The out-reach effort, too, (out-reach is simply an attempt to try to return dropouts to the school and to a new kind of curriculum, with central focus on careers) can hopefully return students to school long enough for them to acquire job skills.

Another element of career education is job placement and follow-through. Job-placement is something that we have talked about in education ever since I have been in it. We are talking here about devoting as much attention to helping students get good jobs for which they are trained and to helping them hold the jobs as we are now devoting to helping students get into the right college. I use the word follow-through because there are many students who need help not only in getting a job but also in holding a job. We can say that there is dignity in work, but there are some jobs in which there is little or no dignity; and a guy who thinks he is going to be in one of those jobs for forty years understandably becomes disenchanted with our society. I think we can help some students if we stay with them long enough so that they either get a promotion on the job or an increase in salary. Of course, guidance and counseling, with a focus on career guidance and counseling, would be part of a career education program.

What about funds for this kind of thing? I try to think of some of the things that are going on and how people are using some funds. Much of what I have talked about does not require additional money. It simply requires the decision and the commitment to move on. It requires a retooling as much as anything else.

In the elementary school efforts--career education in the elementary school--we are funding ten developmental projects this year. We are asking the legislature for enough funds to extend that to fifty-four. There are about six systems which have presented proposals in instructional assistance projects at the elementary school as a vehicle for teaching basic academic skills. So there are about six or seven systems that are attempting to use these funds. We have a few systems that are using Title I--ESDA funds to initiate this kind of program. Title III is a possibility, but no one uses Title III at this time.

At the junior high level there are vocational funds for the PECE program, at least to get the program started; and additional extended day and extended year programs are available after the first year. We have the many pre-vocational programs in grade 8, where many systems are just redirecting their existing vocational teachers. We have about three systems that have reassigned their high school counselors to the form of a PECE role. Several of them are in summer school to be retrained to implement that kind of program at the junior high level. We have a couple of superintendents who have decided, rather than hire a new social studies teacher, to hire a person for PECE. Thus, many schools are counting it as social studies. Of course the disadvantaged and handicapped projects that many of you have are being used to help in grades seven through nine.

Then in the senior high program there are vocational funds. We are asking the legislature this year to provide funds for three-plus allotted teachers to secondary schools that have over 1,000 students and to provide two-plus allotted teachers to schools that have under 1,000 to meet minimum requirements for a comprehensive program. We have had some indication that this might be funded, and if you think that something like this is needed, you can help make that become a reality.

You know about the instruction and equipment fund for high schools. We would accept a brief proposal for a very small grant. We have a system that is putting in a comprehensive high school next year, a year from this coming fall. Funds to help you redesign your curriculum in the ways that we have been talking about today will be provided.

Some of the schools are redirecting some of the general education curriculum content so that there is an emphasis on careers. A number of systems are doing this, building into the general education curriculum, the academic curriculum, certain content and learning activities that are career-oriented.

A few schools are redirecting some of their English and social studies teachers and replacing some of those teachers with teachers in occupational areas. A few systems are using Title I funds.

Redirection and utilization of twelve-month vocational teachers and extended-day vocational teachers could do some of the things that we have talked about today. We also ought to work on ways of using twelve-month vocational teachers a little bit differently in the summer.

In closing, I have tried to point out that education should give as much attention to preparing students for earning a living as it does to preparing them for living, with the argument being that this kind of education will enable us to serve an additional group of students that we usually do not serve very well.

EMERGING CURRICULUM PATTERNS OF CAREER EDUCATION IN THE ELEMENTARY AND MIDDLE SCHOOLS

Mr. Joel Smith

Project Director
Cobb County Occupational and Career Development Program
Marietta

I would like to talk with you about career development activities in practice. Cobb County has been fortunate this last year to have been operating under a federal grant in exemplary programs to carry out the exciting elements of career development.

We in Cobb County do not feel that we have all the answers. We do feel that we have run into just about all the problems, though, and those problems are what I want to share with you--problems that we have run into in attempting to implement a program of career development. I also want to share some of the successes that have come from that particular implementation.

Looking at job-skill preparation at the secondary level, we are concerned with youngsters who are coming to a point in their lives where they have to make decisions. They have to know what decision making is about and they have to have some kind of basis for the decisions that they make which will affect their lives from that point on. Certainly vocational education has done much to give youngsters who perhaps did not fit so well into the curriculum an opportunity to make choices. Everybody here would say that it is a great thing that youngsters are given an opportunity to make choices. But there is one difficult and basic problem, and that is that these youngsters are not equipped to make such choices. They come to you at a secondary level unable to make a realistic decision based upon any kind of experience and knowledge gained along the way, generally speaking. Providing such experience and knowledge is the underlying thread of career development as I see it. That is, youngsters going through such a program will be given the opportunity to build--indeed, will be helped to build--a basis for the decision making that they will have to do the rest of their lives. Before a youngster can tell you that he wants to take welding, business, calculus, or solid geometry, he has to know something about himself. This theme of "know **thyself**" runs the entire gamut of the career development approach.

In Cobb County at the middle school level we are incorporating a Program of Education and Career Exploration to which Dr. Bottoms so often refers. We have youngsters in the middle school who go out into the community to spend time on the job with the workers, looking at various kinds of jobs at all levels and asking questions. Job questions start with the individual: "What do you do? What are the mechanics of that job? What are the duties? What do you feel about it? What does it mean to you? How did you get it? What were the educational steps and avenues necessary for you to get to that point?"

In the PECE program the youngsters talk about their preconceived notions, about various kinds of occupations in the classroom setting with a coordinator, and then they go out into the community where they get an opportunity to look at these kinds of occupations first hand, to talk with the workers--to spend time with them--not on a "Coca-Cola" tour, not on a walk-through tour where one stays behind the red line at all times, but actually interacting with the workers. This procedure requires flexibility in scheduling. It requires an opportunity for a youngster to be away from the school for two, three, or four hours a day; and this scheduling flexibility movement should be one of the basic components of an emerging curriculum (such as that taking place in Cobb County at this time). There has to be a willingness and a commitment on the part of the administration (principal) to bend to new approaches to meeting the needs of the students in the school. All levels of occupations are considered; all kinds of workers talk with these youngsters and let them know their feelings about the work they do.

In one particular case, a young man talks with a shoe repairman, watches what he does, and asks, "Do you mean to tell me that you stand behind this set of tools all day and you don't ever talk to anybody? You just work on these shoes? You don't have anyone else to work with? You don't have any cooperative effort?" This is the kind of interaction, information, and feeling that this particular approach imparts.

I am spending most of this presentation talking about the elementary portion of the program; and I am doing this for a specific reason, because if we are going to attempt to educate (and we are talking about total education) a youngster, we are going to have a product that is already rolling, we are going to have to get behind that ball and keep pushing, and we are going to have to start right at the very bottom, in kindergarten and first grade. Youngsters have to begin to find out something about themselves; through this developmental sequential process, they are going to be able to tell you something about themselves. So, we must consider the part of the program in which youngsters who are involved in total education at the elementary level are preparing to make decisions, many of which will affect them for the rest of their lives.

Think about first graders painting a checkerboard in the classroom (not off in some workroom somewhere). The students have not closed their books and said, "We are going to quit learning and start hammering or 'vocationalizing.'" They are still learning. When you envision this particular scene you do not see the mathematics that this youngster has used in learning to read a ruler, in learning to measure, and in marking off the squares. Painting a checkerboard calls for realistic, practical application of a mathematical principle, one that a youngster needs at the first grade as he builds a base for the mathematics that he will need for the second grade and so on. You do not see the letters that these youngsters themselves write, inviting people from the parks and recreation department to come in and talk with their class, to tell them about kinds of occupations involved in recreation. You do not see that the teacher who started this particular unit at the first-grade level began by asking the students what kind of recreation they would like for the days when the weather was inclement, making it impossible for them to go outside for a play period. They make things for themselves, and during the time they are working on varied activities in the classroom, they are talking about jobs in the community that have characteristics similar to the kinds of activities in which they are involved. You do not see the measurement made for the dowel from which they cut their checkers; you do not see the fact that there are youngsters in this particular first-grade classroom who can paint a checkerboard who have never taken part in any other activity in the class. You do not see that there is an exceptionally bright youngster who is leading the others, who is giving what he can to this particular activity, just as there is one who is only able to paint a square and sometimes stay within the lines but is also giving what he can to the total effort.

Several elements of career development--a manipulative activity, academic tie-ins, resource persons from the community, field trips into the community, role-playing activities, and occupational introduction--all are tied into each unit. All are a part of a student's total education, so that he does not see a separateness; he looks at his project and sees occupations in it: "I see what you are saying in terms of what I am doing in mathematics, and I see how mathematics applies to these specific occupations." A youngster who gets the feeling that an infinite variety of jobs is available for the characteristics that he himself possesses will remember that such jobs exist, and he will know where to go to look up further information about them.

The individual is the center of every activity. We are talking about what we can do with our students, how we can totally educate them, so that by definition the center of every activity is the student. Around him are those various elements that I mentioned to you--manipulative activity, academic tie-ins, resource persons from the community, field trips into the community, role-playing activities, and occupational introduction. Around that whole are three elements--the home, the community, and the school. Education goes on for all of us all the time, and it goes on with youngsters at home, and in the community, as well as at school--and this is one of the things that the career development approach aspires to have each student feel.

In one particular activity the youngsters talk about different occupations in photography. The teacher was looking for a way to explain a pure science principle--the refraction of light--at the fifth-grade level. To graphically illustrate this principle, the teacher had the pupils make pinhole cameras. Then they said, "Let's talk about the different kinds of occupations that are related to photography. Let's talk about all the kinds of photographers and the people that do the processing and the people who are using exactly the same kinds of science principles that we are using right here in the fifth grade in the photography unit in developing pictures. Let's talk about these things all together, not separately."

Imagine second-grade youngsters involved in a food service project. They may study through the process of role-playing with a restaurant called the Big Four Restaurant (named for the four basic food groups). If all elements of career development are tied together, the activity will have meaning for the youngsters in terms of other subject matter areas. A little girl who is role-playing a waitress taking down orders will be intent upon spelling words correctly, you may be sure!

Imagine some second-grade youngsters who are building a services counter. This activity is taking place in the classroom as a part of a total educational experience. They have been to a shopping center which is across from the school as a field trip. They went to a barber shop, a beauty shop, a drugstore, and a dry cleaners. They have come back to the classroom, and they are building their counter so that they can use it later in role-playing various kinds of occupations observed on the field trip. All the youngsters can take part. They can say those kinds of things that we are all interested in knowing about ourselves--"I like working with people" or "I like working with things" or "I like being over there in the corner by myself" or "I have to be out here in the middle of things." They might ask, "Can I handle the supervisory end, or am I just a good follower?" (There is nothing wrong with following.) One of the highlights of this particular activity as it was played in reality was a little girl who had a burning desire to role-play the part of the shoeshine boy. The principal of her school sported for about a week the nicest shoeshine you have ever seen. The student got an opportunity to try shoeshining on for size. I rather doubt that she will wind up as a shoeshine boy, but I do think that she learned something about herself!

Consider youngsters involved in a post office project. There are several things that I want you to think about. First, I want you to recognize a grand resource material--a refrigerator box. Materials need not be expensive. Children are born scroungers, and they bring some of the most fantastic materials imaginable from their homes. We have a standing order with every furniture store and appliance store in Cobb County for refrigerator boxes. They call and we pick up the boxes, because refrigerator boxes can become post offices, telephone booths, and a variety of other community buildings.

A post office "building" was measured and cut and painted right in the classroom by the youngsters. At the same time they were talking about the kinds of people who work in the post office for a living. This project was done at Christmas time, and all the second graders sent Christmas cards to one another. The most prestigious job of all, as you might imagine, was that of the carrier. He got to go from class to class, and he was king of the mountain! Those second-grade youngsters could tell you to this day that it is important to the carrier that somebody made the stamps and that somebody sold them and that somebody sorted the mail; they get a feeling of the interdependence of occupations to each other, a feeling for the worthwhile efforts of every one of the occupations in the total scheme of things. They latched on to resource people. This is one of the things that we are trying to build: when you see people, get something from them, learn something from them. Everybody can tell you something that will help you learn, something that will make you one step further along. I will guarantee that if you walk through any of these schools in Cobb County you will very likely be grabbed up as a resource person. They will want to know who you are, what you do, and how you feel about it!

In a protective services unit, for example, there were several law enforcement agencies represented by resource persons in the classroom. Some of the questions that these fifth-grade youngsters asked include the following: "What is it like to be a policeman? In today's world and the turmoil that we are facing, do you feel silly wearing that uniform? How do you feel when you are out in that police car late at night by yourself and your family is at home?" These are the kinds of things--the feelings--that are important to people, and they will be important to these youngsters in helping them to form a base for their future decision making.

One of the nice things about this particular protective services unit was a field trip to the FBI headquarters in Atlanta. While they were there an agent got the names, addresses, and other pertinent data from two of the youngsters in the class and this information was then sent off to Washington, and in five minutes a reply came back saying that neither of these boys had records. It really turned them on! That particular agent's feeling for them--the fact that he knew that they were there and that he cared--impressed them, and this is a part of what the community has to offer education.

Imagine youngsters building a puppet stage. In this particular case the teacher walked in and said to her class one day, "Okay, I want everybody to make a puppet that will show what you want to be when you grow up. What you want to be will change in fifteen minutes, or tomorrow, and this is grand, but show me what you want to be right now!" I hasten to tell you again that there is neither intent nor desire at the elementary level to channel children into any kind of decision or into any kind of occupation. We seek to give them the big picture so that they can begin to see what is offered. She did this, and the youngsters made their puppets. One young man made an astronaut. One young lady made a bride doll, and the way she ordered the boys around when they were getting that stage made, I think her choice was most appropriate! The youngsters made the stage right in the classroom. When this activity was over, this product had become a part of the children's total school life. The youngsters use their puppets to act out stories from their third-grade readers--a very practical application of something they themselves have created.

Picture a class of youngsters putting up a horizontal bar on the playground. The sixth graders leaving Blackwell School wanted to leave something for posterity--they wanted to be remembered. The academic tie-ins here (in terms of geometry, in terms of mathematics, and in terms of science) are endless, as you can imagine. A man came out to the school and threaded the pipe for them on the site. It gave them an opportunity to see what he did and how that related to what they were trying to do. This project also offers a fine illustration of academic tie-ins. The sixth graders could not decide how high to make the horizontal bar, so they decided to go to all the classrooms, measure the shortest and tallest youngster in each class, average those heights out, then average the results. Through that procedure they determined the height of the bar. They found that there was such a difference between the first, second, and third graders and the fourth, fifth, and sixth graders that they wound up making two bars! When you ride out by Blackwell School, you will see both of them out there, looking like a giant croquet set. Are these youngsters proud of their work? You'd better believe it!

Youngsters participated in a restaurant role-playing activity in which they served breakfast in the first-grade classroom. They themselves did the cooking and serving, and each had an opportunity to play the customer and the server. The waitresses made their aprons as a part of the manipulative activity. The young men and young ladies at the table read menus that they themselves had typed out and for which they had made the covers. After a field trip to a cafeteria they knew that there is quite a difference between a dishwasher and a potwasher in the hierarchy of the restaurant business.

In a manipulative activity on food services at the third-grade level, everybody played store, but they could tie their store into about fourteen occupations. They could tell you about volume and weight, about budgets and expenses. One youngster was standing alone over by the door one day when I visited the class. I walked over to him and said, "Son, why aren't you taking part in this activity?" And he said, "Oh, I am, I'm the security man!"

Youngsters at the sixth-grade level became involved in a construction project--a unit they themselves organized to talk about occupations in construction. In order to get the activity under way, the students decided to divide themselves into three groups. They formed three companies with organizational charts, names, and slogans; and they bid against each other to build the teacher a lake house. They got actual prices of lumber and materials, and they had an architect come in to talk to them. They submitted their bids on official bid forms. They can tell you about the effects of labor unions on the construction industry; such are the things that go on in that kind of activity.

The teacher is the heart in this approach to education. Teacher willingness and teacher commitment arise from administrative commitment. We have career development specialists, staff members of the project who work with the teachers; their function is one of support. This support lies in the setting up of field trips, procuring materials and supplies, and securing resource persons if the youngsters themselves have not already done that, which they generally do. There is no second team run in on the youngsters. These career development specialists do not go in and say, "Okay, it is time for career development." The total picture is presented to the student by the teacher in a unified effort. A principal's willingness to have noise in the school, his willingness to see a little paint or a few nails spilled, his willingness to see youngsters in one group in this corner and another group in that corner makes it possible for this kind of approach to be successful in his school.

The youngsters who made the checkerboard I spoke of went on a field trip to Furniture Craftsmen Galleries, a furniture manufacturing plant in Cobb County. After having gone through those operations of cutting, measuring, sanding, and finishing a checkerboard, they went to a place where people use those same characteristics in their work. On this particular trip, three youngsters were talking with a young man who was operating a router, and who was literally covered with sawdust. One of the youngsters asked him, "What does your mother say to you when you come home all covered with sawdust like that?" You see here the emergence of real feelings about jobs and people.

In one classroom the youngsters built a "glad corner" for themselves. Having gone through all the elements of career development that we have mentioned earlier, each of these youngsters, many of whom come from large families with small homes, was given ten minutes a day that he could go into this glad corner and pull the curtain and sack out on the floor or play with toys or look out the window and be alone for some time of privacy. This is another way that this kind of approach can be a part of the child's total school life. He is through with that manipulative activity, but the product becomes an integral part of his total school life.

Going back to the refrigerator box and talking about communications occupations, we can consider a project which was a joint effort between the first and second grades. There youngsters had a telephone that operated. They made their own telephone booths from which they called each other. In terms of academic tie-ins as well as occupational feeling, they had a billing system. Each child made an IBM card with his name and his telephone number on it. When a student made a call from the second to the first grade he was billed a word from his current spelling list. When he got it right, the bill was marked paid; and until he got it right he could not make another call. If he let it go two or three days he was charged "interest" and had to spell two words! Their spelling was most accurate during that activity!

The second-grade youngsters were telephone linemen, and they strung wires down the hall from the first to the second grade. A telephone lineman came out one morning and climbed a pole for the students and showed them his equipment. It was a beautiful day, and they all said it would be great to work outside. They said, "You climb up the pole and get a suntan while you work." He said that was true; but he also said, "Do you remember that bad ice storm in March? I was out that night until 11 o'clock when the ice hit the telephone poles." They thought about that, too!

All of this is tied to administrative commitment. We keep returning to that. That commitment is very necessary for youngsters to be up and about and learning. The administrator must be concerned with letting the community into the educational process. You do not have to force them in, just let them in, because they are willing. Everyone is a resource person. The custodian at Bells Ferry School who is also a part-time farmer served as a consultant for a group of fifth graders working on occupations in ecology. He told them what soil erosion means to someone who is there trying to get a few ears of corn out of the ground.

Perhaps the greatest aspect of the career development approach is that it shows youngsters that school can be fun! It also shows teachers that school can be fun! School can be a part of the total picture, to which children belong. The school is the child's place. He cannot capture it but it will be there. It is his, and he can use it.

These are the kinds of things that we are doing in Cobb County. I invite all of you to come by any time you can during the next school year and see career development activities in action.

EMERGING CURRICULUM PATTERNS OF CAREER EDUCATION IN THE SECONDARY SCHOOLS

Mr. Ed Word

Coordinator, Area Vocational High Schools
Georgia State Department of Education
Atlanta

Before discussing the curriculum, I would like to give you a brief history of the development of the career development program. We in Georgia have enjoyed for a long period of time, as you well know, a reputation for having outstanding vocational education programs. Traditionally, programs in vocational agriculture and home economics have been outstanding, but in recent years they have not met the needs of all students in our rapidly developing industrial state.

In 1958, with the passage of the NVEA Act, and in 1963, with the passage of the Vocational Education Act of that year, Georgia began to put significant amounts of money into vocational education to serve the needs of our emerging technology. Up until that time, most vocational funds had gone into programs of agriculture and home economics and a few other types of vocational education on a very limited basis. About the beginning of the sixties southern states really began to pour money into a vocational education to prepare people for industry.

Many southern states put their funds into programs at the high school level. Georgia, along with some other states, elected to put its money at the post-secondary level. We built a system of vocational-technical schools that has served as an example for the entire nation. We have one of the better systems of vocational-technical schools at the post-secondary level.

The secondary level of vocational programs did not develop in the early sixties, and it was not until about 1965 that Georgia changed the emphasis and funding. In 1965 the Department of Education presented to the State Board a plan for developing a vocational program in high schools different from the traditional type of agriculture, home economics, business ed, etc. The plan is now called the comprehensive high school program. There are really about three different titles given the program and I want to try to clarify these titles for you. There are really three types of centers being developed to serve high school youngsters under the plan.

The first type is one we call the comprehensive high school. A comprehensive high school is one where a vocational department with at least six occupational offerings is added to an existing or a new high school that has at least one thousand students in grades nine through twelve. A comprehensive high school has an academic and a vocational program. (This does not fully fit Conant's definition of a comprehensive high school, but at least it is serving the career development need, as well as the traditional college-bound student needs.)

Under the same heading, we have developed plans for comprehensive high schools with less than one thousand students. The primary difference is in the number of programs put into the smaller high school and the level of funding that small high schools can qualify for. The comprehensive high schools basically qualify for 50-50 matching funds; in some instances where Appalachian or Coastal Plains monies are available, we have gone a little higher on the ratio; but in the centers that were classified as comprehensive schools of less than one thousand, one-hundred-thousand-dollar matching grants are the best that we have been able to do.

A second type of center is the area vocational high school. This is a center that offers only vocational programs. It is located on a separate site. It serves two or more high schools by bussing students in for two-hour blocks of time. An example of this is the new school that will open this fall to serve Gilmer and Fanning Counties, a school located not on any high school campus, a vocational school only. Students will be bussed in from three high schools that are within fifteen miles of this center. Students will come only for two-hour blocks of time and will go back to their home school.

The third type of center is one called a combination secondary-post-secondary school. We have a few of these operating, and a few more will begin operating this fall. In these, students in grades ten, eleven, and twelve are bussed to the existing vo-tech school (the post-secondary school). We have added a number of vocational programs to serve high school youngsters at these centers.

The comprehensive high school is the most popular one of the three. About 90 per cent of the centers operating this year are of the comprehensive type, and this is the type that comes closest to meeting the needs of youngsters, because we can tie the curriculum together much better if all of the school is under one roof and on one campus. We do not promote the other types if we can develop a comprehensive high school, but there are still several hundred small high schools in this state that cannot be reached with the comprehensive type. There we have to use one of the latter two approaches to meet the needs of the students.

Regardless of the type of center, we are still attempting to make the vocational program an integral part of the high school student's curriculum, so that he does not see the vocational addition, vocational wing, or vocational building as something separate and apart from the school but as an integral part of the high school curriculum. Of course, we are anxious to have principals and teachers and vocational and academic people realize that the vocational courses are designed to be a part of and not something separate from the curriculum.

Let me show you a little about the development of these centers in order to orient you to the development. There are twenty-four comprehensive high schools or area vocational high schools currently in operation in Georgia. We anticipate having thirty under construction or in the planning stages this year. There is, of course, more development in the north end of the state, and there is a reason for this. The north end of the state is in what we call the Appalachian region and has qualified since 1965 for annual appropriations for construction and equipment over and above what the rest of the state gets. We have been able to implement more development in that area. South Georgia is in what we call the Coastal Plains region, which covers everything south of the fall line. Those counties qualify for funding under the Coastal Plains Act; we have had only four systems actually receiving some monies for vocational projects. Funds are much more limited under the Coastal Plains Act than under the Appalachian Act.

In the career-development program being followed, we are attempting to guide the student's progression as he goes through the program. We are attempting to develop a curriculum where students can, when they complete high school, go to work if they desire. If they want to go by way of the post-secondary school and/or to college and then to work, then that should also be possible.

I think the curriculum pattern being developed takes on a pyramid approach. The elementary level must be the pyramid base of orientation and information about the world of work. As the student matures and is able to think about making choices or decisions about his career, then we begin to narrow the curriculum somewhat, giving him the hands-on experiences with the exploratory and pre-vocational courses. Then at the high school level, still narrowing as the student matures and is more able to make career decisions, we narrow the curriculum even more. He is still exploring, but he is also preparing. He is beginning to prepare for a career. Of course, the post-secondary level is where he does his specializing and/or retraining.

We are not attempting at the high school level to turn out a finished mechanic or a finished craftsman. We are simply trying to prepare the student for entry into his next step of decision making regarding that career. His decision after high school may be to enter a job where he will still be exploring and learning, or his decision may be to go on to the post-secondary school to prepare for a more specific career. Therefore, as I see it, our total curriculum needs to take on somewhat of this pyramid approach.

Following this concept on through to a curriculum pattern, we find the total career program beginning at grades one through six with orientation and information. In grades seven through nine students actually begin to get exploratory and prevocational experiences in a number of different kinds of occupations. In grades ten through twelve we are emphasizing the career or vocational clusters, and I want to talk a little bit about the cluster concept. At this level students spend at least two hours per day as tenth or eleventh graders in actually learning job-entry skills. Students may learn these skills in the two-year period of time and move on to the senior level where they can have other options. One of the major objectives of the secondary level is flexibility of scheduling, giving students many options. I have heard many complaints from parents and teachers about how many students at the senior level are wasting their senior year. They take all requirements before getting to be seniors and then just take meaningless electives. We are attempting to design a high school career development program to provide some options for seniors. If they have prepared for job entry as a tenth or eleventh grader, they may have the option as a senior to actually go on-the-job in a co-op program, having taken two years of in-school laboratory type training under a qualified teacher in that particular occupational area. A co-op program provides a natural transition from school to work. Another option for students who do not elect to go the co-op route will be what we call the "senior plan" to a vo-tech school. The "senior plan" allows the student to go to the vocational-technical school for the entire senior year on a full-day basis. He may earn four units from the vocational-technical school to apply back at the home high school and count as credits for graduation. By this means, of course, the student has gained a year of vocational-technical training plus a full year of high school. With this he should be rather competent as an entry-level worker if he wants to go to work when he gets his diploma from high school. He may elect to stay another year at the vo-tech school and complete the two-year curriculum in a specific area. There are other advantages to the senior plan for the school system in that the attendance counts at the high school. Even though the student is not there to be taught, the high school counts his attendance for pay purposes. In addition, the state pays transportation from the high school to and from the vo-tech school every day.

Another option for high school students is to take a new vocational course that was not taken in grades ten or eleven. For example, the student who takes the transportation occupations program at the tenth and eleventh-grade level might desire in his senior year to take electronics. The electronics competency would make him more competent in the transportation occupations. The student who took electronics, where he was learning to repair televisions, radios, etc., might desire to take a course in marketing to prepare himself in the sales or distribution field. This gives him another option for employment purposes. Perhaps you can see other combinations of courses that would make a student much more mobile and adaptable for employment if he had a number of different competencies.

A final option for high school students would be an in-depth study in the same course. We are attempting to help the school systems design a project-type approach the senior year for some students who might want to specialize rather than take one of the other options. For example, a student's father owns and operates a radio-TV shop. Why not let that student concentrate on color televisions if that is what he wants to learn for immediate employment after high school. Or, instead of a student's taking a broad course in transportation, he might have a special interest in repairing marine engines; let him concentrate on that as a special project at the senior level. Of course, all of this is designed to give students more options to actually prepare them for some of the jobs available to them.

The high school programs that the above options represent are not single-skill programs; these are what we call multi-occupational programs. Up until about two years ago we were establishing single-skill programs in high schools. For example, instead of transportation, we were offering a program of auto mechanics. Under the new multi-occupational concept he learns auto mechanics, small engine mechanics, marine mechanics, diesel mechanics--a whole family of related occupational areas. In the past, instead of offering a program of construction occupations, we had a course in carpentry or masonry, a single skill type of program. Under the new concept the student gets carpentry, masonry, residential wiring, and plumbing--all in one program related to the same field. The electro-mechanical program is also a cluster or multi-occupational concept. In the past we would put in a program on air conditioning or appliance servicing, where we now cluster it, calling it electro-mechanical, and teaching all of it in one program.

This concept is somewhat new to most schools in the country. We explored this concept in-depth a couple of years ago before we made the transition from the so-called single-skill approach to the multi-occupational approach, and we found several states doing some of this kind of training. The one from which we finally adapted most of our materials was the state of Maryland, where a federally funded project had been under way for a couple of years, involving the concept which had actually set up pilot programs, and implemented the program for a couple of years, getting some results, and proving the value of the approach. It seemed to fit how people develop and tie in much better to our concept of a career development program; it does not narrow the student down before he is ready. The student is not capable of making a career choice as a sophomore in high school, and this plan does not require the student to narrow down at this level; we are only asking that he narrow down to a family of related occupations. After going through a career education program in the lower grades, perhaps he will be attracted to the broad field of electro-mechanical or construction or transportation.

All types of programs being implemented in the comprehensive and/or vocational high schools are of this nature. We are moving away from the single-skill concept that tends to narrow options to students and lock them in before they are ready.

There was a dilemma a couple of years ago when we started this concept in that we were offering single-skill programs in many high schools. The post-secondary schools and technical schools were offering the same kinds of programs. We recognized early that there were some duplications of effort at the two levels which did not fit into a natural sequential type of development; therefore we immediately moved to develop the cluster concept which has pretty much solved the problem.

Again, the concept is not to produce a finished craftsman or a finished mechanic in any one of the areas; it is strictly based upon the notion of growth on the job. We are attempting to prepare the student for entrance into the job (and then he can grow on the job) or entrance into the post-secondary school where he can further develop his chosen career objective.

The following objectives are identified as outcomes of students graduating from a multi-occupational program in vocational education at the secondary school level:

Objective 1: To provide the student with greater flexibility in occupational choice patterns.

The student is provided with an opportunity to obtain skills and knowledge necessary for job-entry in several related occupations. He is also provided with an opportunity to appraise his personal interests and abilities in several specific occupations in a cluster. Since the student is not channeled into a single occupation, he is provided with an opportunity to explore several occupations and enter the one best suited to his ability and interest.

Objective 2: To provide the student with vocational competence that affords him a greater degree of mobility on a geographical basis.

Due to the mobility of today's population, vocational education can no longer be planned in terms of the needs of the local community. The multi-occupational project provides students with abilities which will enable them to enter a variety of related occupations. This will allow graduates to move from one place to another and still gain employment.

Objective 3: To provide students with vocational competence, affording them mobility for jobs within an industry or plant.

The multi-occupational program provides students with an opportunity for a broad field of skill development as well as the potential for a sound program of basic education. The program aims to develop skills that are both employable and transferable. It does not attempt to train persons for specific jobs that are open only temporarily.

The multi-occupational concept is designed as a program in vocational education at the secondary school level. It is instituted as a two-year program in grades ten and eleven on a two-hour block of time. The program is conceived to serve students enrolled in both the vocational and general curricula.

The multi-occupational program is based upon the assumption that a large percentage of the secondary school population is not mature enough to make a firm decision of their life's work down to a specific occupation.

Eli Ginzberg has stated that occupational decision making can be divided into three distinct periods:

> The period during which the individual makes what can be described as a fantasy choice (elementary); the period during which he is making a tentative choice (high school); and the period when

he makes a realistic choice (post-secondary).

Baer and Roebson have commented as follows:

> Since most young people have a broad range of interests and capabilities, appropriate initial choices are facilitated by a knowledge of families of occupations. It is becoming more generally recognized that early training, even at the college level, should be broad enough to give the student the background for a group of related occupations. Thus he is not driven into a specific occupational choice before his interests have matured sufficiently for him to choose a field of work.

The cluster relates well to the concept that:

> Vocational programs should provide educational experiences that are not terminal education programs.

The multi-occupational program with its two periods per day can easily be a part of the general curriculum student's program. This can provide richer employment opportunities for the individual and enable him to take courses which will allow him to continue his education at a technical school, junior college, or other form of higher education.

The identification of specific occupational clusters was determined through the application of the following criteria:

The occupational cluster should:

1. include occupations that are related on the basis of similar materials, processes, and products.
2. be broad enough to include occupations with a wide variety of skills and knowledge.
3. involve occupations that require not more than a high school education.
4. provide mobility on a geographical and occupational basis.

Criteria were also established for selecting a sample of occupations from a total list of possibilities. The criteria for selecting a sample of occupations for each cluster included the following:

The occupations must have:

1. a favorable employment outlook.
2. the instructional capability of being implemented in a secondary school program.
3. opportunity for job entry upon graduation from high school.
4. numerous skills and knowledge providing an opportunity for the identification of commonalities with other occupations.
5. opportunities for advancement through further schooling, on-the-job training, or apprentice programs.

Probably one of the more important advantages of the multi-occupational concept is the broadening of the occupational choice pattern given the student while in school. Although still faced with making a choice, it will no longer be between specific vocations but between one of several "clusters" of occupations. While there is no way to lower the age at which a child matures, it is possible to put the choice of specialization off until a later date through broad training such as this program offers.

Taken overall, the multi-occupational concept as a program in vocational education at the secondary school level seems to be well suited to the needs of our high school youth who will comprise the future work force. On this basis, it seems worthy of trial in a variety of situations, rural and urban, in small schools and large, and with students from the general and vocational curriculum.

In closing, let me say that all of the services are developing occupational cluster programs that will fit into the plan I have discussed. Agriculture has offerings in ornamental horticulture, forestry, and agri-business which fits the plan. Business education offers a multi-occupational approach through the clerical, stenographic, and management occupational areas. Distributive education has a project and cooperative approach to training which offers multi-occupational training through many areas. Home economics offers programs such as child care and food service which offer multi-occupational options, and trade and industrial has several clusters.

PROBLEMS AND ISSUES IN DEVELOPING A CAREER CURRICULUM

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One of the first public pronouncements of the present Commissioner of Education was his Annual Report to the Congress on the status of education in the United States. This document was probably prepared, in large measure, by the staff, because Commissioner Marland had only recently received his federal appointment. He had a firm foundation in education before he came to his new position, however, and he did make the observation that the present structure for public education, which some people in management are talking about as a delivery system, really needs overhauling in order to be responsive. As we look at the representative democracy which we have in the United States--a unique experiment in human relationships--we see that even that needs overhauling, but that it is not a matter of replacing it completely but of trying to find out what should be different about it.

I would like for us to address our attention to Commissioner Marland's observation for a few minutes. Let us look at what we are trying to do and how we are trying to do it in relation to what we think the needs are. From talking with the staff about what they propose to do during this conference, I can see that you have already zeroed in on some of the demands--the needs for change. You are also dealing with (or have had presented in the sessions of this conference) an approach--a concept--that is beginning to materialize in a variety of ways, that is aimed at career education.

What I would like to do is to have you identify your relationship, your working responsibility. I know most of you are secondary principals, high school principals; but I see some other people here--directors of shared service projects, directors of special projects, members of the staff of the Department of Education--and I am sure that there are other jobs or positions or areas of responsibility represented here. I would like to get a feeling for the composition of the group, so I am going to name a few of these, and, if you will, please raise your hand when I name your position. I am also going to ask a few of you to respond to my question asking for your views of the primary problems facing us in education as they pertain to making education real and meaningful to individuals.

In the last three years I have tried to go everywhere I could, read everything I could, observe everything I could about the whole concept of individualizing instruction. I would like to have you involved in some of this, like to have some dialogue. Later I would like to identify what I think are some of the issues and some of the problems and to give you my own concept, my own definition, of the direction that this state should go in public education.

How many of you are senior high school principals? Junior high school principals? Elementary school principals? Does anybody have a middle school? A combination school--one through twelve? How many of you are curriculum directors? Directors of vocational education? Are there any superintendents here? Classroom teachers? Directors of shared service projects? College and university people?

I hope you have thought about my question. Let me state it for you: As you have looked at education today, as you have talked about needs, as you have examined some of the things that have been presented to you, as you have looked at your own individual students, as you have generalized about students overall, and as you have seen the status of life as it exists today, what have you seen facing Georgia education? What, in your own mind, is the number-one problem that we ought to consider?

Answers from the Floor

"Teacher competency. To alleviate or eliminate the dropout problem. I think one of the greatest problems is that teachers, from the public's point of view, have a very stereotyped idea of what a high school graduate is supposed to know. The whole concept of what education is. In the junior high schools we have the problem of selling this kind of program to teachers and community people. That is going to be a big task."

"The inability of the students to read. Opportunities for all students to achieve success. We need to orient the instructional program to the needs of the students instead of what happens to be in the textbook. A lot of teachers feel that students do not need to know anything that is not in the book."

"I think we need to do something to enable students and maybe teachers to accept implication of developmental tasks as relates to the society that we find ourselves in. I think so many times we go out to solve a problem before we really understand the circumstances this thing is growing in."

"I think we really need to redefine our methods."

"I think we need to teach teachers that career education is not something above and beyond what they are doing now, that they can do this in connection with what they are already doing--find the right time to add this to what we are already doing."

"I think we are going to have to do something to assure that when a child graduates from high school he has some skill that he can sell to employers."

I appreciate your responses. You have really zeroed in on what I say is a need for restatement, redefinition, of what we are aiming for in terms of formal education for the children, youth, and adults in this state. I want to try to come back and say in simple words that by that I do not mean a restatement of goals, objectives, or philosophies that become buried in some self-study for accreditation processes or other purposes, but something that is really meaningful and gives direction to us day by day.

I have been very keenly aware in the last seven years as a member of the staff of the State Department of Education that there are many divergencies in our state. There are also some difficult problems with which we have to deal. I am also aware that there are decisions which are made which frequently are made without reference to a well-understood, well-stated, and accepted goal.

It seems to me what is happening in this state right now (and I will not generalize beyond Georgia) is that we are developing a more literate public than we have ever had before. We have greater interest on the part of people day-in and day-out and in all walks of life in what is happening to the value system than we have ever had before; and, recognizing that there is a significant relationship between how people think and what they think and the educational experiences which they have had, it seems to me that one of the difficulties that we have had is that we have tried to separate education from life. "Here is education and there is life. If there happens to be a little transference, okay. If not, okay." Several years ago, while I was a graduate student here at the University, I was driving back from Savannah, and a person who is presently a member of the staff of the University was riding back with me. We talked about five or six hours that night as we were driving back about points of view in education. His point of view was pretty much that the disciplined study of a strong "liberal" education would lead to a person's being an educated person who could face problems and resolve issues personally and individually. I cannot absolutely refute that, but I do want to point out that we are living in an age when the productivity of a few bright minds has presented us with a technology that confounds us if we do not know how to understand it and to utilize it. It is having its impact on us as we live and work here in Georgia.

We have finally come to grips with something that we thought we could not face. We still have to learn how to work with the racial question, how to build some attitudes, feelings, and emotions for ourselves--that very personal part of ourselves--about this whole matter of the acceptance of other individuals, the whole matter of the racial question that has confronted us. But we are now reaching beyond that to the next step to say: How do we help the people of Georgia--not black people or white people but all people--to be responsive, to have fulfilling experiences in their own lives in this day and time. We are talking about, focusing on, individuals.

As we look at these kinds of issues, these kinds of goals and aspirations, if these are becoming crystalized as goals, there are some issues that we have to face. One of them is how we really define education. Let me say that one of the real issues that we face in this state, and all over the nation, is that something has grown up--that we have dichotomized, labeled, separated, and established conflict--between vocational or occupational education on the one hand and academic or general education on the other. We somehow have to resolve this issue in terms of looking at what John Jones needs in terms of education for what is real in the world today. A person who is going to be successful today must have some understanding of technology as it affects his life day-in and day-out; more importantly, in a representative democracy, education has to do the same thing. I do not know what the solution is. I have some ideas, and I would hope that I would have in the next months the opportunity to share some of these ideas with you; but that issue must be resolved.

As has been discussed in this conference, as you will be discussing later, or as you may have in your schools right now, some programs are trying to blend what we call the vocational with what we call the academic. This is the interdisciplinary approach, trying to have the math teacher use concrete data from a particular occupational field as the real content for teaching basic principles. I do not even like that dichotomy, because then we will only come up with another kind of difference. My focus is on looking at each individual human being as a human being with his own innate capabilities, unique abilities, characteristics, aspirations, and drives to do what is best for him.

There are a lot of common needs, and I am not talking about the free schools. At this point I have too many fetters that bind me to go all the way to free schools, but I think that our emphasis has to be on learning rather than on teaching. As we shift the emphasis we will achieve the goals. You know we never realize any of our goals in full measure, but this whole matter of trying to design a curriculum that meets the needs of the learner rather than trying to modify a student's schedule so it fits the master schedule that exists will help.

Basically, we are talking about a person's willingness to change. A superintendent called me just as I was leaving Atlanta to come to this conference. He said, "I have thirty high school seniors who want to enroll under the senior plan in an area vocational-technical school. We have a small high school, and we can't provide the laboratories, the instructors, or any of this sort of thing. But under this plan we can supply it. We can provide transportation. We think it will be a valuable experience. But we have run up against one problem; these thirty students are going to be short one Carnegie unit in social studies." (You know that there are nine constants required by State Board policy since 1954--three in English, three in social studies, one in math, one in science, and one in either math or science. I presume that somebody in your school checks to be sure that every transcript has at least these nine units with a total of eighteen Carnegie units for graduation.) He said, "What do I do? Can I waive that policy?"

Well, I am not on my own accord going to try to prevail on the State Superintendent and the State Board to take this under consideration. The point that I want to make is that we make these kinds of decisions because we have to apply rules uniformly; but somehow we have to look at the needs of individuals rather than the group all together.

There are certain cases where the group must be protected, but there has to be commitment for this. I am saying that it has to begin with me--and you. The question I am raising with you is: How committed are you in your school? I am aware that yours is one school in a system. I worked as a school superintendent, and I tried to get the principals to be uniform; maybe that was the worst thing in the world for me to do, but it certainly was more convenient for me. I could say that I knew that everybody who entered the first grade was six before January 1--later October 1--and that was convenient. The more important thing, however, was whether or not this child was ready to learn, regardless of his chronological age. So I am not unaware of what I am asking you. But how committed are you? When you really get down to it, the tone which you set in your school and the influence you have among your peers and in your own school system will ultimately determine pretty much the kinds of things that you do.

Most of you are here because you have that kind of attitude, that sort of outlook; but it has to be in concert. If you proceed in that way, it behooves me, it behooves the staffs in the College of Education in this institution and in other institutions and in the Department of Education, to see how we can work together to make some changes in public education in Georgia overall so that we can have a statewide total commitment.

Another point I want to make is that change is pretty laborious. We do not really like to change. I quit smoking (or let me say I have not smoked in two years, three months, four days, one hour, and twenty minutes) and now

I have taken on a diet, so I know what change can mean. The same thing is true of what you have been doing in your school. You know if you have your master schedule set up and if you can get your McBee cards set that you do not have to worry about that; you get a few transfers, but you can spot them around and make it a pretty easy task. But if a youngster comes in who really wants to be an automotive mechanic, who really wants to get into some occupational area that is going to require a change, that is going to require some thought on your part. How am I going to use the staff that is available? How am I going to use the space? More importantly, however, what about your taking the initiative? Do not wait for a student to come to you and say, "May I do this?" Go to the student and say, "What do you really need to be doing?" These are the kinds of facts that we have. This is really the intent of the statewide testing program. The whole thing that I am talking about is this matter of change and the difficulty of change.

One of you mentioned the matter of teacher competency and teacher change, teacher willingness to change. If you read Matthew Miles's book on innovation, you will find some basic kinds of principles that you can follow. You have to create an environment for change. As far as I can see, it parallels what a good teacher of reading does in teaching basic skills to young children: readiness precedes real learning, and there has to be motivation for this. It has to be a kind of non-threatening environment. Well, I will not go into that other than to say that you and I have a responsibility to understand what the issues are, to delineate these, to determine what the priorities are in relationship to what our goals ought to be, really to try to discuss or determine what the issues are--and what some possible solutions are. As we project ways of making change, we must follow that strategy by creating a readiness for change, and then the attitudes will come; and ultimately some change can occur.

Now I think that these are really the points that I wanted to make with you. There are a lot of things that have been presented this morning that I wanted to reinforce just in a broad general statement to those of you who are participating in some of the programs. Those of you who are looking at the involvement of teachers who have been in what we have called the traditional academic areas are effecting some sort of dialogue in joint planning and team teaching with people who are considered specialists in their areas in occupational education. That really gets at some of the needs of individuals; I want to commend you.

The thing that I hope we will be able to do, though, is to fashion from these problems and issues in revising the curriculum in the public schools in this state an educational experience that will help each individual develop his own capacity, his own innate ability, in ways that are peculiarly appropriate to him. I hope that this week will be really a meaningful one for you and that it will establish some beginning of a continuing sort of dialogue among all of us in education as we seek to provide a brighter day for Georgia's public schools.

PATTERNS FOR INTERLOCKING THE OCCUPATIONAL AND ACADEMIC CURRICULUMS

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A lot of things are happening in education; a lot of things are happening in vocational education; and it is extremely difficult to keep up with all of them. I do not think we have any experts in the field of interlocking. We have some theorists. As you know, a theorist is one who is adept in the theory of a subject, as contrasted with practical application. A theory is explanation based on thought. Maybe a great deal of what I am going to have to say this morning is explanation based on thought as opposed to my being able actually to put it into practice.

I do think we are developing some practitioners in this business of interlocking, though, and I think we will have some experts in the next year or two; but, as of now, I do not know who the experts are. Quite frankly, I got into an investigation of this problem quite by accident. The State Department of Education asked Dr. O'Kelley, who is chairman of the Division of Vocational Education, to find someone to get a group of teachers together to see if they could develop some curriculum materials that could be used in interlocking vocational and academic curriculums in the area vocational high schools. He found someone, and that someone was me. I got a group of teachers together and we worked at this problem. This caused me to do some thinking and to try to develop within my own mind a point of view that should guide us in this effort, a point of view in developing the materials as well as a point of view that would stand up relative to interlocking itself.

The first question that comes to mind whenever this concept of interlocking is mentioned is: Why bother to correlate or interlock curriculums? It does take time; it takes planning; it takes a lot of things. In order for me to answer this question I raised another question--and maybe it is the eternal question regarding public education at the elementary and secondary level. What are schools for in the first place; what are we supposed to be doing in public education? All of you as administrators know that students are asking this question more and more; parents are asking this question; and the general public is asking this question. It seems to me that we are finding it a little more difficult to provide really satisfying answers. A lot of these people are not accepting some of the pat answers that we had a few years ago. We have to do better than we have in the past.

The question is: What can we do better for students that will prepare them for successful living in a society which is becoming more and more complex with each passing day? A starting point in answering this question would be for us to recognize one very fundamental principle--that a student does not get one education in the English department, another in the math department, another in the science department, another in the history department, and on and on, and then another in the vocational department. A student should get only one education, but the parts will come from the various disciplines in which the student is enrolled. These parts will add up to one education for that child. Some parts may be weak; some parts hopefully are strong; but the student will be a composite of all of them. So first maybe we should try to agree on exactly what it is the school--the total school as opposed to just one department of the school--is trying to accomplish with students. I think this kind of answer must be provided and a faculty must develop a common point of view before they can join forces and try to interlock curriculum.

I would like to mention a few objectives that have been suggested by various educational leaders over the years as far as the central purpose of the public schools is concerned. First, the schools could help the students memorize a lot of facts. I imagine that you have some teachers on your faculty who would subscribe to this point of view. They might not say so in so many words, but actions indicate that this is the point of view that they hold--that really the function of the school is to help the students memorize a lot of facts. In so doing we assume that the mind is like a sponge, that it soaks up a lot of information; and a further assumption is that this information can be drawn out and used as needed. Of course, there are a lot of fallacies to this point of view as a controlling point of view, and one is that in many cases what we call facts are not facts at all. If you could think back in your own educational experiences, you would recall instances where you learned some things as facts that today are not facts at all. Another big objection is that just being able to recall a lot of facts, assuming we can soak facts up, is no guarantee that these facts can be applied in useful situations. But to me the greatest objection to this point of view is the research of educational psychologists which clearly tells us that the mind retains very little of all that which is memorized for any great length of time. You know this is a fundamental truth; we just do not remember those things which we commit to memory for any great length of time.

A second point of view that you may find among your high school faculty is the belief that the school can discipline the mind. We assume that the mind is like a muscle in this case; and this assumption states that we can train ourselves to pick up one pound today, two pounds tomorrow, four pounds the next day, and so on, finally getting to be like Samson, able to pick up anything. If we subscribe to this point of view as far as the major purpose of the school is concerned, we are assuming that the mind, like a muscle, can be made to do progressively harder and harder tasks until it can handle any task that the student confronts. Of course, the major fallacy of this idea is the fact that the things learned in one situation can be transferred to another situation only to the extent that those situations are similar. A student may work at mastering Latin (and I would suspect that this is a hard task), but even after mastering Latin in grand fashion he may still be as ignorant as anyone else when it comes to the matter of driving a nail, if he has not been taught to drive a nail.

A third objective that you may find floating around is the school's trying to predict just exactly what students will be doing fifteen years from now and prepare them to do that. When I mention this one, I am really getting close to home, because this smacks at vocational education. Still, I would challenge any of you to guess in light of what is taking place today what any student will be doing fifteen years from now or, for that matter, five years from now--or where he will be doing it, on earth or on the moon. Some people are telling us that we should be preparing students to enter into occupations that do not even exist now but which will exist four or five years from now. I do not think we could subscribe to this business of preparing people for a particular occupation as the controlling purpose of the school.

Another point of view is one that will be very familiar to you. Many may subscribe to the point of view that what the schools really ought to be doing is preparing students to go to college. I know you have heard this one batted around a great deal. I throw it out in passing along with these other three or four. Of course, this means that we pour it on in high school so students will be able to pass college work. How many students go on to college? How many do we lose from this kind of curriculum before they finish high school? Yet the entire curriculum in many schools is based on college entrance requirements. Grant Venn in his recent book, Man, Education, and Manpower makes this statement about this problem: "When nearly one million young people fail to complete high school each year in this nation, one must conclude that many do not believe that schools are helping them very much. When nearly 40 per cent of the high school graduates each year enter four-year colleges to obtain baccalaureate degrees and only half of them succeed, we must ask if the choice was relevant. When 50 per cent of the high school graduates drop out before completing two years, something must be wrong. The most amazing thing is that so few people see this as a problem. College enrollment has become the end for so many people that a student has little choice. Today a person must have an advanced degree or be considered a failure. This societal worship of higher education as a symbol has become so great that it dictates the program of the high school, prevents the definition of quality in education, downgrades the work roles of adults, determines schools' accreditation regardless of purpose, and prevents the development of multiple learning approaches and multiple educational goals for the students."

A document came across my desk two days ago from the Bureau of Labor Statistics pointing out occupational requirements and educational requirements for various occupations in the '70s. They were saying that 80 per cent of the jobs that would be available for youngsters in the '70s would not require a college education. I am not knocking college education in the least; I am questioning a high school curriculum which is based strictly upon college entrance requirements and preparing all of the students to go to college. I do not know that it should be an either-or proposition. Can we not simultaneously prepare them to go to work and/or to go on to college?

Since the aims thus far covered do not fully satisfy me or fully answer the question what are schools for, I would project one other. It is not original with me, and I do not think I am alone in supporting it. I would hope that most of you support it. Here it is: the school ought to prepare students for life, today as well as tomorrow.

We cannot say what students will be doing tomorrow, but we know what they are doing today, and what they need to be skilled in doing today. We may say that life is a series of todays, that the best preparation for tomorrow is doing the best we can to help students develop the ability to solve problems of today. What I mean, however, is bringing all the educational forces of the high school to bear upon problem-solving situations faced by the students and teaching them to solve problems. How well are schools helping students prepare for life? How well are schools helping students learn to solve problems?

As I said, we know that many students drop out of school because they find little meaning in the curriculum. We know students who receive diplomas without salable skills. How can we make education more human, more relevant, more meaningful, more realistic--choose your own terms--to students? What can we do to turn students on to education and not turn them off to education? We think maybe that the interlocking approach may be a partial answer to this.

The National Advisory Council on Vocational Education in its general report in 1968 provides a point of departure and gives us some direction in this area of interlocking, stating: "It is no longer possible to compartmentalize education into general, academic, and vocational components. Education is a crucial element in the preparation for a successful working career at any level. The educational skills of spoken and written communication, computation, knowledge of society and one's role in it, and skill in human relations are as vital as the skills of particular occupations. On the other hand, employability skills are equally essential to education. If education is preparation for life, and if practically everyone's life and opportunity for expression and self-fulfillment include work, then only the successfully employable are successfully educated. Vocational education is not a separate discipline in education, but it is a basic objective in all education and must be a basic element of each person's education. The key is to build a better means of integrating academic education, skill training, and work experience. The common objective should be a successful life in which employment has a crucial role."

I think the point of view that must prevail if we are to find the key to integrate curriculums is that education really is the matter of preparing individuals to participate effectively in our society. Each discipline makes a contribution toward this goal, and the task becomes one of teachers of these various disciplines working together to find ways and means of making each discipline as meaningful as possible to as many students as possible. To me this is the essence of interlocking; and this approach, as we visualize it, could utilize the vocational laboratory experiences as a nucleus around which to formulate a more attractive package of education. It should be emphasized, and I cannot emphasize this too much, that this is not a means of getting the academic teachers to assume the instructional responsibilities of vocational teachers. One of the first reactions of a few academic teachers may be, "Well, you are just trying to get me to do your work for you." This is not the case at all. Rather, it is a means of obtaining the cooperation of the academic and vocational teachers to assist the student in doing a better job at his assigned task, and the student's task is the task of learning.

In this approach to interlocking the vocational laboratory experience simply places the student in a problem situation. In order to solve the problem mastery of certain academic concepts is required. This should not only provide the motivating force for learning to occur but also, whenever tentative conclusions are worked out to the problem, furnish a means for the student to put conclusions into practice in a vocational laboratory experience or project. Each of the various disciplines in which the student is enrolled may make a contribution toward working out a solution to the problem.

A very simple illustration may help to clarify what I am talking about. A student may be faced with a problem of procuring materials for a construction project in the construction multi-occupational program in the school. Mastery of certain mathematical concepts may be necessary in calculating the amount and cost of materials needed; certain science concepts may be utilized in determining physical properties of various materials that could be used and to aid the student in selecting materials to use; communication skills will have to be utilized in placing the order, either verbally or in written form. The idea is that by using a real problem the math, the science, and the language arts concepts become more meaningful to students. The vocational project or problem provides an answer to such questions as "why should

I learn this?" or "what good will this do me?" or "I'll never use it, so why should I bother with it?"

Last week Dr. Frantz had a group of teachers from Daniels Junior High School in Cobb County to make a presentation on interlocking to a workshop group which he and I were conducting, and I taped their presentation. I would like to share with you at this point just a few remarks that some of the academic teachers made. These people were engaged in a special project, one aspect of which was interlocking. I picked up a few comments that should serve to point out what I have been talking about. The first comments are those of a math teacher who had worked with the home ec teacher on a unit in the day-care center. This is what she had to say: "They really found out the practical side of math. They didn't just have to get it out of a textbook. When you talk about volume or three dimensions or two dimensions or area or making a wheel fit in at an angle, they can see it, no matter whether they are general math students or algebra students. They understood, because they were actually doing this."

Now I wish to share a few comments made by the science teacher who was also cooperating with the home ec teacher in this project. "The first thing we got into was nutrition, because we had to feed the children. I teach physical science--introduction to chemistry and physics. In order to fit my course in and her course in, to work it all together, we decided that we would design a day-care center. I divided the science into five areas--one took paint, one took sound, one took lighting, one took nutrition, one took heat and floor covering. Now all of this was in my textbook, except the nutrition. Each of these related but with different concepts."

I have some additional comments by the math teacher on interlocking a unit in banking with the business and distribution teacher: "One fellow actually brought a business check from his father's ex-business, and we tore them out and ran them on the mimeograph. We just drew the deposit slip; it was not that difficult. They would draw their checks, too, if they ran out at home. I gave them just enough entries to do each one of these checks, with one left over in case they had to void one. I gave them enough deposit slips, too. After they did this, I asked them to write whether they liked this, disliked this, whether they thought it was a waste of time, whether they liked the sidetracking (as they called it) from the regular math class; and, without exception, everyone in class said, 'Why don't we do more of this? At least we can see what we are doing; at least we can see why we are doing that. When we do something like this, I enjoy it; I can see a practical use of it.' And this was from the most intelligent student to the least intelligent one."

Now, finally, a few comments by Mr. Joel Smith, who is the project director: "I think you can see here the interest you have in this group when you get together, when you have to give a child a public education and can put these things together. You have math teachers who are teaching math concepts that have realistic applications; you have science teachers who are teaching science concepts that have realistic applications...."

These comments illustrate what I have been trying to say, and they were made by people who have been engaged in interlocking for a year. These teachers were very enthusiastic about what they were doing; they were looking forward to next year. They had some excellent ideas on improving their situations for the coming year based upon their experiences this year.

I worked with a group in a workshop last summer in developing some curriculum materials that could be used for interlocking math, English, and science with certain curriculums in the area vocational high school. I would like to share with you briefly the kinds of things we attempted to do. This summer I worked with a review team to review the material developed last summer. We are in the process of reprinting this material. Copies of it hopefully will be available to you or others who would be interested in having it later on. I will submit this to Dr. Bottoms in the State Department of Education, and he will determine the means of distribution.

Specific objectives of the workshop were as follows:

1. To identify the concepts and knowledges a student must possess in math, science, and communication skills in order to perform entry-level tasks in selected occupations for which multi-occupation curriculums prepare students.
2. To identify the concepts and knowledges in math, science, and communication skills that could be taught by using the entry-level job tasks as a base.
3. To develop guides in math, science, and communication skills that are related to the multi-occupation curriculums in area vocational high schools.

Procedure Used: Three sub-groups were formed to develop the guides. The English teachers were in one group, math teachers in another, and science teachers in a third group. Each of the academic groups worked with the vocational teachers for specific multi-occupation curriculums. The vocational teachers identified concepts in math, science, and communication skills that a student would need in order to successfully perform the job entry-level tasks for the various occupations. They also identified the vocational application for each of the concepts. The vocational and academic teachers together identified learning activities which might be used in correlating the academic and vocational curriculums.

The following guidelines were developed by the workshop participants and should be considered in the development and implementation of correlative efforts at the local level:

1. Commitment to the proposition that school life and learning can be made more meaningful for students when curriculums are correlated. The following school personnel should share this commitment:
    a. Principal
    b. Vocational and academic supervisors
    c. Academic and vocational teachers
    d. Counselors
2. Formation of teaching teams composed of interested teachers representing the various disciplines to be correlated.
3. Planning on a frequent and systematic basis. One person should have the responsibility for coordinating the correlation effort. A workshop to make specific plans for correlating curriculums should be conducted during the summer or during pre-planning week. Teachers should plan together for specific correlative activities on a regularly scheduled basis throughout the school year.
4. Support of the total school program. Vocational and academic teachers should recognize and support the contribution of the various disciplines to the total education of the student. One means of doing this may be by team teaching in selected correlative activities.
5. Sharing of teaching aids between vocational and academic teachers. Teachers should visit between departments to discover teaching aids used in various instructional programs such as wall charts, filmstrips, and cutaway models. When appropriate these instructional resources should be used by team members in the correlation effort.

6. Individualized instruction used as extensively as possible. Example: Instructional contracts developed jointly by academic and vocational teachers involving the learning of an academic concept and the application of the concept in the vocational education laboratory.
7. Projection of positive attitudes. This is of paramount importance on the part of each teacher in the vocational and academic areas for successful correlation to occur. Encouragement and assistance given to students by academic and vocational teachers can aid in the close alignment of the various disciplines and thereby help students not only make a living with their lives but also make their lives worth living.

Finally, I recognize that there are many unsolved problems relative to correlating curriculums. There are many problems in education that need to be solved. These problems will not all be solved in the near future, but we keep working on them. We need research in many areas of education, and certainly we need research in this area to help answer some of the questions on interlocking. The teachers with whom I have worked have developed a tremendous spirit of cooperation and enthusiasm for their work and for this particular concept. Many of them, after one year of trial, are convinced of the merits of this approach to making education more meaningful to students.

AN INTERLOCKED CURRICULAR APPROACH TO EDUCATION

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A prevailing attitude in this country today is the notion that individuals of most worth in a society are those people who are the managers and controllers of an industrial democracy rather than those individuals who are the operatives, craftsmen, and technicians. This attitude is reflected in the college preparation emphasis of American public schools where a concern exists for prestige and status which is to be gained by displaying figures which illustrate how many graduating seniors have entered higher education. Parents, teachers, and students have been inculcated with the feeling that educational accomplishment and achievement must be pinnacled by a bachelor's degree from a university or college. Although this goal is worthwhile for some individuals, it does not represent the most meritorious level of attainment for everyone; yet the major thrust of elementary and secondary education is oriented toward college-bound students.

The U. S. Office of Education estimated that for every ten pupils who entered the fifth grade in 1959-1960 only two students were likely to obtain a bachelor's degree in 1971 (Simon and Grant, 1968). These figures indicate that the college preparation emphasis on American education today is unrealistic and irresponsive to the actual societal needs of this nation. A tragic result of the unrealistic pattern of American education is the failure of many youth to complete a high school education. It has been estimated that 25 per cent of the fifth-grade enrollment in 1963 did not finish high school this spring. In absolute terms, this means that 950,000 pupils will have joined the dropout ranks between 1963 and 1970 (U. S. Department of Health, Education and Welfare, 1968). The Department of Labor has estimated that 40 per cent of the school dropouts were from families with an annual income of less than $3,000. Approximately one-fourth of these dropouts did not complete elementary school and one-half had dropped out by the second or third year of high school (U. S. Department of Labor, 1964).

Jerome Rosow, Assistant Secretary of Labor, has summarized the problem very succinctly in the following statement:

> We give a lot of individual attention to youth in school. If a young person is going on to college, high school is designed to prepare him for college entry. Not so in the case of the non-college bound. Their courses typically do not equip them with a salable skill. School counselors know much about colleges but little about the labor market. In fact, very little faculty time or curriculum is earmarked for the non-college bound....(Rosow, 1971)

New directions are needed in American education in order to provide opportunities for all students to graduate from high school and function creditably in a career of their choice. One of these new directions is the interlocking or correlating of various subject areas with vocational education courses at the secondary school level.

Several concepts of interlocking or coordinating academic education with vocational education have been proposed by advocates of the approach. One of these concepts depends upon vocational laboratory experiences to interlock the curriculum.

The laboratory method emphasizes an interdisciplinary approach where the principles of subject area courses are coordinated with the content of vocational education courses. Teachers of mathematics, social studies, science, and English relate the concepts of their respective disciplines to the knowledge, skills, and attitudes taught by the vocational educator. The lab experiences received by the student in vocational education are utilized by academic teachers as motivating devices where math, English, science, and social studies are related or applied in relevant learning situations (see Figure 1). The approach should assist students in acquiring a desire to attain the concepts and principles of a subject which would be reflected in their achievement of the objectives specified for the instructional program.

The preparation and planning, or Phase I, of an interlocked curricular approach to education is initiated by discussing the proposal with administrative and supervisory personnel within a school system. If positive approval of the approach is provided by administrative personnel, the total school faculty needs to be informed of the interlocking approach and their responsibilities in the implementation process. The faculty should be provided time to react and discuss the proposal in small group sessions over a brief period of time. If the faculty provides a positive reaction to the interlocked curricular approach, teaching teams are formed which are composed of interested teachers representing the instructional areas of mathematics, science, social studies, English, and vocational education. Communication sessions should be held by the teaching team in order to acquaint each member with the objectives, content, and instructional methods utilized in each area (see Figure 2).

After informing each other of their respective subject areas, the team is ready to begin Phase II (see Figure 3) which involves implementation of the interlocking process. At the beginning, it is advisable to interlock the curriculum on a monthly basis, rather than weekly or daily, due to the amount of communication and planning involved in the process. Each academic teacher comprising the team would select a topic or unit of instruction to be taught at a predetermined time during the month. This information would be transmitted to the group and responses would be given by the vocational education teachers regarding its application in the business, home economics, agriculture, distributive, or industrial education courses.

Classroom implementation of the interlocking approach would involve selection of instructional strategies by subject matter teachers that would enable students to acquire the desired knowledge, attitudes, or skills. Assignment contracts would be prepared to provide small group or individual assignments and applications for students who are enrolled in various vocational education courses. The assignment contracts would be utilized by students within the classroom or in a vocational educational learning experience which necessitates application of knowledge in successfully completing a laboratory activity. The contracts would allow individual attention to all students in a class and enable a performance-based evaluation of student achievement to occur. After student completion of the instructional unit, the teaching team would meet to discuss the results and evaluate student achievement of the assignment.

In conclusion, the development and implementation of an interlocked curricular approach to education will require a total commitment on the part of administrators and teachers who become involved with the process. A re-

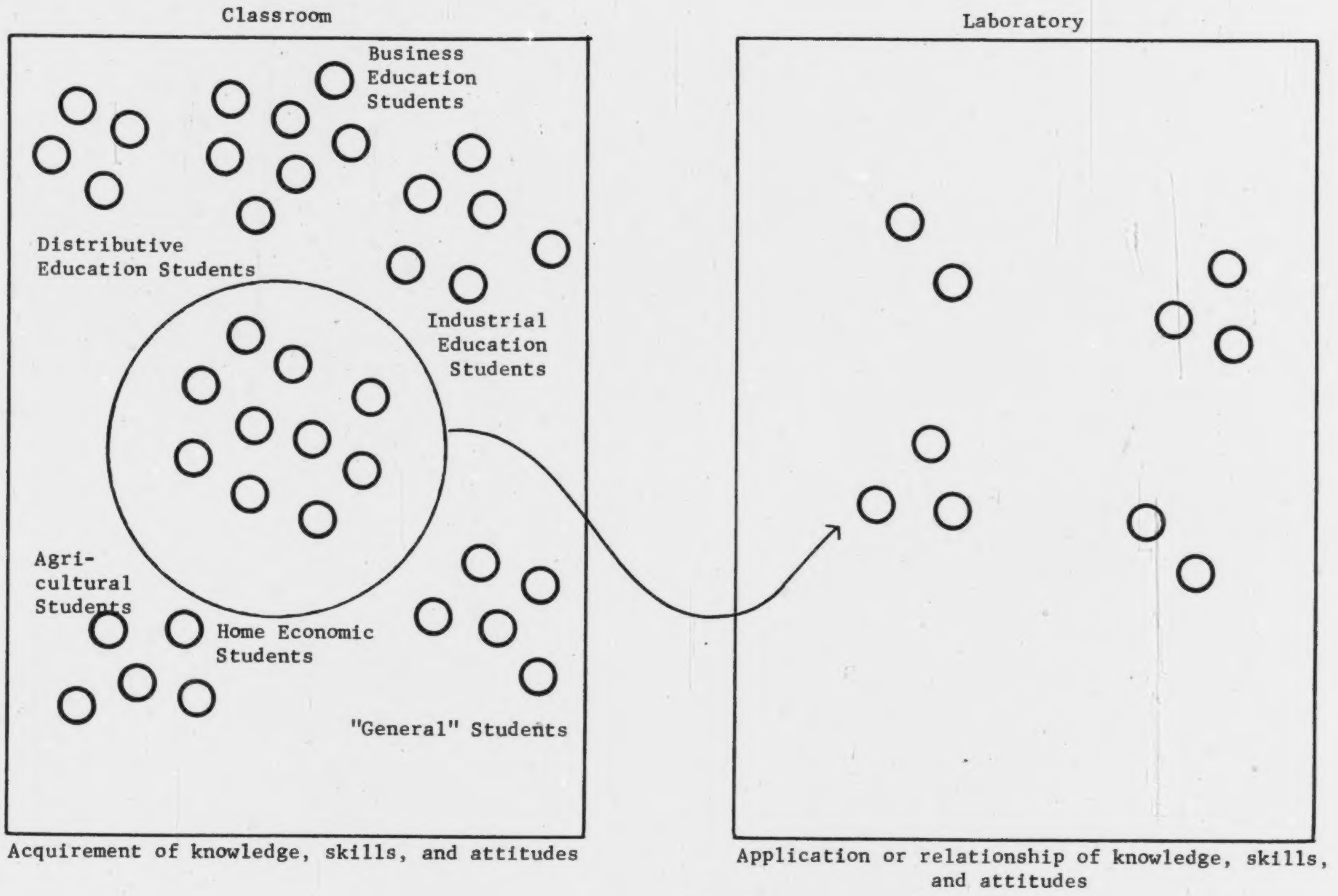
Classroom
Laboratory
Business Education Students
Distributive Education Students
Industrial Education Students
Agri-cultural Students
Home Economic Students
"General" Students
Acquirement of knowledge, skills, and attitudes
Application or relationship of knowledge, skills, and attitudes

Figure 1. Interlocking Curriculum

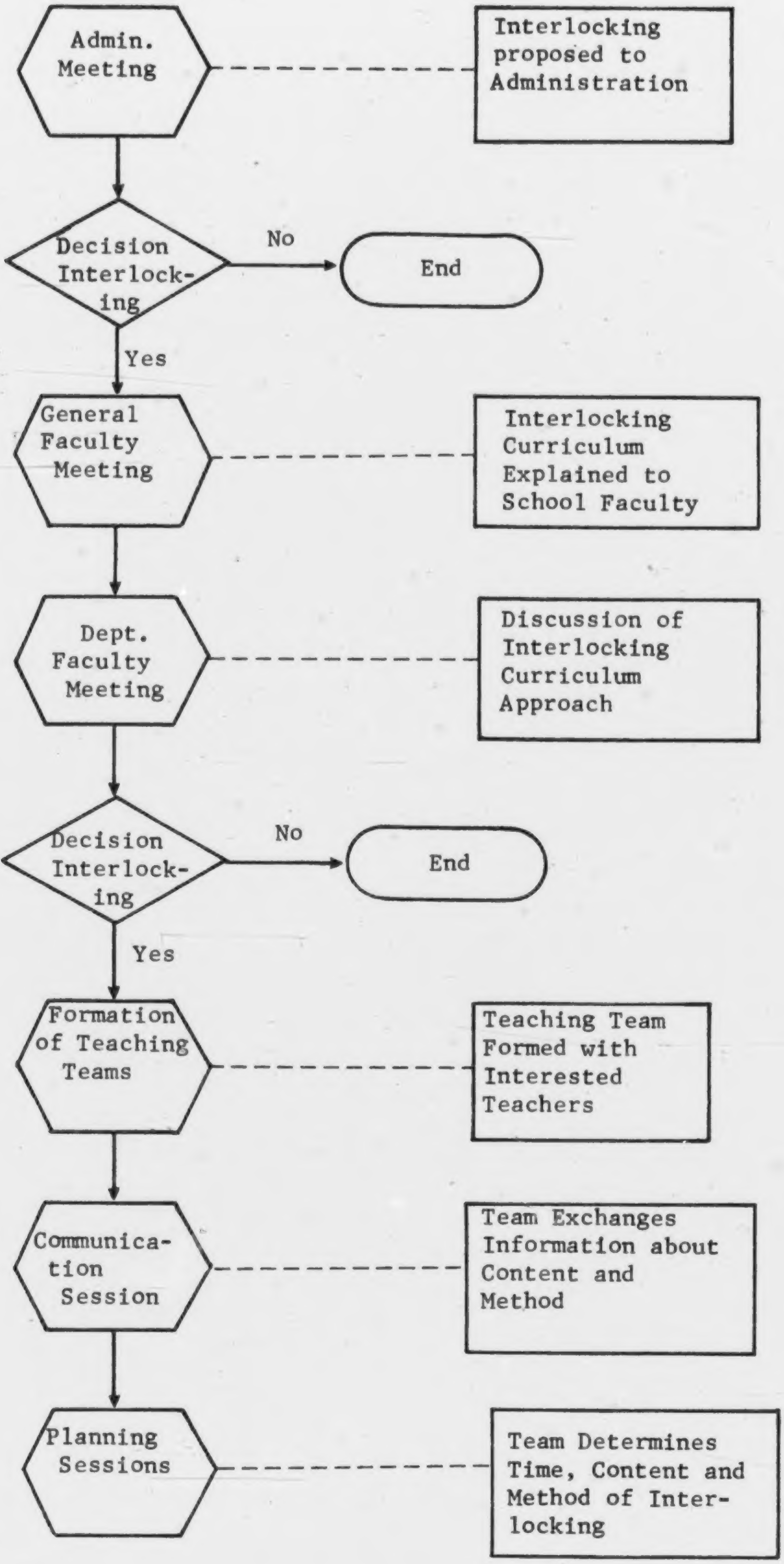
Admin. Meeting
Interlocking proposed to Administration
Decision Interlocking
No
End
Yes
General Faculty Meeting
Interlocking Curriculum Explained to School Faculty
Dept. Faculty Meeting
Discussion of Interlocking Curriculum Approach
Decision Interlocking
No
End
Yes
Formation of Teaching Teams
Teaching Team Formed with Interested Teachers
Communication Session
Team Exchanges Information about Content and Method
Planning Sessions
Team Determines Time, Content and Method of Interlocking

Figure 2. Phase I--Preparation and Planning of an Interlocked Curriculum Approach

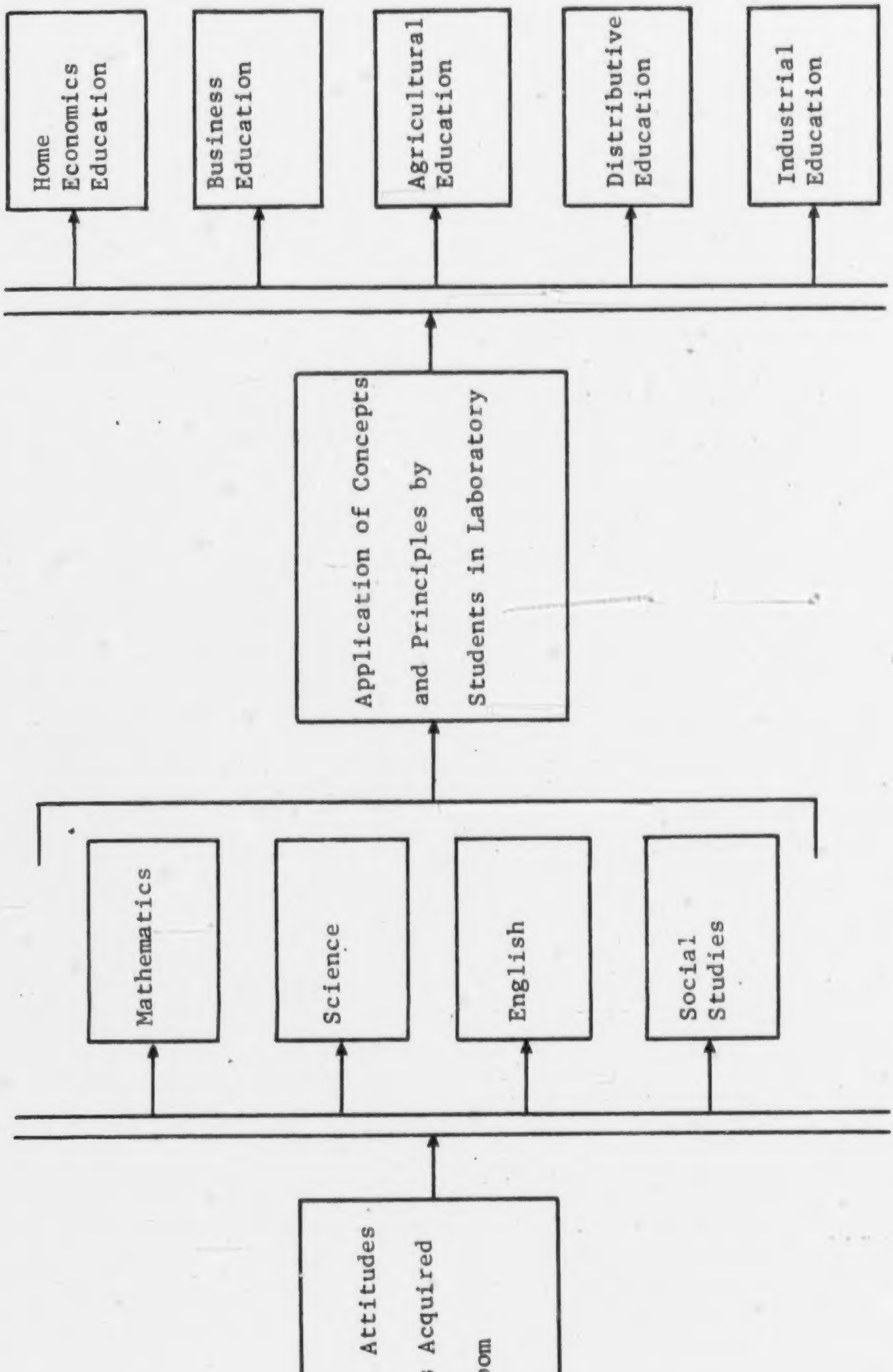
Knowledge, Attitudes and Skills Acquired in Classroom
Mathematics
Science
English
Social Studies
Application of Concepts and Principles by Students in Laboratory
Home Economics Education
Business Education
Agricultural Education
Distributive Education
Industrial Education

Figure 3. Phase II--Implementation of an Interlocked Curriculum Approach

view of pilot programs indicates that the success of the approach is based upon two prime factors: (1) The complete cooperation and encouragement of the school principal, and (2) a commitment by a group of energetic teachers willing to set aside at least one period per week to evaluate individual student progress and plan interlocked projects for future classes.

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PROJECT MANAGEMENT: THE PRINCIPAL'S ROLE AND RESPONSIBILITY

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I have been fortunate to work with several separate schools this year in writing and initiating special projects to serve the disadvantaged and handicapped, and I will attempt to go through some of the basic elements of project management. Naturally, since I work with disadvantaged and handicapped projects, I am going to use this as my focus. In the final analysis, of course, the principal's role as a project manager is decided upon by the principal himself. This is the way it has to be. I know of no one else who can tell you how you are supposed to do this. I am going to talk about some concepts and procedures, and you can take them and then decide what you want to do with them.

I want to start off by calling your attention to something we wrote into D & H project guidelines under the heading of major criteria for project approval. It reads: "The program design must provide assurance that the administrative head of the school where the project is to be conducted accepts the responsibility for the development, the implementation, and accomplishment of the objectives specified." To us this pinpointed the single most important person to control, direct, and bring about the changes and results that we were desiring for implementing this special project. In other words, we felt that the principal in the school would be the number-one factor in project success; and, to our knowledge, this is one of the few cases where such a clear-cut policy has been spelled out. It was our way of recognizing the fact that the project could not succeed without the principal's support. It was our feeling that the project director had to be the administrative head, the principal of the school.

In assigning this task to principals, we were aware that principals have their hands full just keeping the peace and just keeping the doors open; but we also recognized that the school is the principal's domain and that any project affecting the school should be completely under his jurisdiction and control. Too many times we have seen the evidence of projects' being implemented in the school without the principal's support, and we are well aware of the consequences. We hope that we have built an understanding of the project among the principals as we have worked with them. We have attempted to have the principals actively involved in writing the project, agreeing to the project's objective. We held several workshops almost insisting that the principals be there, and some of you got a little tired of our saying, "Come to the workshop, come and meet with us, so we can help you understand the project." But we will probably have a few more of these meetings, because you the principals are the people we are concerned about. You are the project managers, the people who will have the responsibility of seeing that the project goes.

Let me say a couple of words about the projects. We definitely believe that these projects can make a difference. They represent an approach to attacking some of the causes of educational problems, rather than just treating the symptoms. The best way that I can explain our attitude is through a little analogy used by a gentleman over in the Title III office, Lester Solomon. Suppose someone comes to you with a headache and you prescribe an aspirin for that headache. Our first reaction would be that you have probably treated the cause. However, suppose that that headache is caused by a brain tumor. In that case the prescription or the treatment of the headache was only a treatment of a symptom. In other words, it did not treat the cause.

This relates to the dropout problem, too. Dropouts are a symptom of a more serious, deep-seated problem in our educational system. Many times our approach has been to treat the symptom at the time it occurs rather than to try to diagnose it and go back and plan things that may get at the cause of the problem. We think, with these thirty-six special projects, that we will be directing our efforts at some causes. We look forward to working with you in these projects with a great deal of enthusiasm and optimism.

Now to the topic of project management. I think the best broad definition that I can think of for project management is nothing more than the use of common sense in planning, implementing, and evaluating. These three steps recognize all the interaction that is necessary to tie a total system together, whether that system be a business, a school, a football team, a church, or any type of organization. It is also easy to recognize that these three major components have to be subdivided and factored out into all their other various components. "Most projects sound good on paper, but in reality they will not work": this is an old saying that is used quite frequently, and certainly there is a bit of truth to this. However, there is a second part to the saying that is not used so frequently: "Most projects work well in some places and fail in others."

Not wanting to focus too much on the negative aspects, I would nevertheless like for us to take a look at some of the broad reasons why a project fails. The first reason that comes to mind is a lack of commitment. This is probably the single most important reason why anything fails. If you want to kill a project, you simply do not concern yourself with it; you do not support it, or you do not get involved with it. A lack of commitment is probably the main reason that projects fail.

The second one is that of negative attitudes. If you say a project will never work, you are right; it probably will not. If you say it loud enough, others believe it and they will not either. Negative attitudes about what it is you are trying to do will kill your project.

A third reason we might take a look at is the lack of understanding of project goals. Simply understanding what your project is all about and having a feel for it is vital to a project's success.

The fourth reason, one that has to do with mechanical things, is that there is no system of planning, implementing, and evaluating the project. I think the key is the system.

The fifth reason is that sometimes projects themselves will not work.

I am sure there are many other reasons, but we are going to stop with these.

While admitting that there may be reasons why projects may fail or die or be killed, let us turn to some of the efforts that can be made to bring about project success. First of all, I think we all realize that there are degrees of success and failure in most school projects. Our traditional pattern, which was always my pattern and probably still is, is to accentuate the things that you do well and to play down what was wrong in a project. We try to hide failure in some sort of statistical jargon that no one can understand. This is a natural reaction that comes out of years of competition for dollars and recognition, and there is very little to be gained in dwelling on project failures. However, from an economic point of view, project failures cost just as much as project successes, and may cost more. It costs just as much to watch a project flounder and fail as it does to watch a project succeed, and this is something that we might want to keep in mind. Of course, we all recognize that there is a certain risk factor that must be taken into account in any kind of school project where new concepts and new innovations are implemented for the first time or where there is an attempt to restructure a traditional pattern or system. We believe that the special projects to serve the disadvantaged and handicapped take the possibilities of project successes or project failures and the risk factors into account. The guidelines state that continuation of project funding depends upon the degree to which the project accomplishes its stated objectives. In other words, how much money is awarded to a school to keep the project going depends upon how much success is achieved through the project effort. The risk factor: if the project is a risk to other schools with similar projects then in the same way it is a risk to you. The risk factor has been neutralized by project commonality; that is to say, you are all in the same boat, you have some shoulders to lean on.

Let us look at project management. Project management is managing a given set of resources to accomplish a definable end. It is simply a means to an end. The purpose of a project (and let me refer to a D & H project) to serve disadvantaged and handicapped students is to enable the total school to accept its responsibilities for preparing disadvantaged and handicapped students for successful entrance into and adjustment to the world of work. This is taken out of the guidelines. In other words, this is what you are striving for; this is what the project is striving for. Management becomes your system or your approach for accomplishing that mission. Having established this project mission or having in mind this primary goal, the next step in project management is to look at objectives, those things that you plan to do. In other words, to put it in the form of a question, how do I plan and implement the activity and program that I propose to do?

Such a step leads us to take a look at each of the major objectives spelled out in the program. When we examine the objectives in our disadvantaged and handicapped project, we find that we have two types--what we call process objectives, those activities that we plan to do, and the product objectives, the results that we plan to get.

Let us run through these objectives again, not necessarily elaborate on them, but take a look at them. We factored out of the guidelines and out of some of the definitions what we consider to be the process objectives for the D & H project. The first one is to offer enough sections of the PECE program or an acceptable alternative on a semester or quarter basis for 80 per cent of the students to be enrolled in grades seven, eight, and nine. In other words, here you focus on career exploration. At grade eight at least three of the pre-vocational courses (service occupations, home economics related occupations, business occupations, industrial arts technology, and agriculture and natural resources) should be offered. At grade nine--and this is for schools that have less than 1000 enrolled in grades nine through twelve--offer one year of pre-vocational courses in at least three of the areas identified. At grades ten, eleven, and twelve offer at least five vocational curriculum clusters, each of which is offered for at least two years on a two-hour class basis. (The office program does not qualify as a cluster.) One of the guidelines and one of the major criteria said a school would move toward implementing developmental programs in vocational education.

In some of the other processes, the school provides intensive short term specialized courses in single-skill jobs for students who have either left school and returned or who are about to leave school. This is an outreach effort, hoping to bring a student back to give him one basic skill before he terminates his schooling.

The school provides for the interlocking teams. One of the processes is to have each teacher in grades eight through twelve monthly provide one learning activity with supporting lesson plans designed to help students to see the relationship between his subject matter and occupation in each level of the VOT. This means that an English or math teacher will focus on one activity per month to try to show the relationship between his subject matter and the world of work. Each teacher has at least one community resource person at each grade to discuss the role with students.

The school conducts at least one home visitation by designated staff members to each student who is classified as severely disadvantaged or handicapped. I want you to keep your mind on this one, because the example I am going to go through focuses all on this provision. There are other processes in the project, some dealing with job placement. One objective states that disadvantaged and handicapped students will be served in such a manner that they will be part of the regular school setting. Others are kind of mechanical things. The program is limited to one school, and what we attempted to do is put in all processes that were in the guidelines, and this will be the basis for evaluation.

Product objectives state the degree of what you said you were going to do. You say you proposed to increase your vocational enrollment by various contact hours to a certain number (and you put it in), and we accept what you put in. You say in one place that you propose to increase the proportion of students leaving school for entry-level job skills to a certain number. You say you propose to increase the number of students applying for post-secondary schools, and you state the number you expect to have. You say you will increase the number of students enrolled in vocational programs, but it is also important that you have more students through our D & H project. None of the objectives from the various schools that I can recall were the same. We did feel that it was worth spending the money for the grant if the school was going to increase the vocational ed enrollment substantially, however. These are some of the products that we achieve in the project. Here is a new one: to increase the proportion of students who, after three months of employment, have received a salary increase or promotion or a better job.

The question we have to ask ourselves now is: What do I have to do in order to implement the activities and the programs that I propose to do? This leads us to suggest that maybe there are two main things that need to be done. (I am calling them "things," but you can call them methods or procedures or whatever you would like to call them.) These two things have to do with initiation tasks, those things that have to be done in order to get the project going, and with the follow-through or monitoring activities.

Initiation tasks: What are those tasks that need to be done in order to get the project going? One of the first things is staff assignment. Who will carry out the responsibility for implementing those activities? For instance, who is going to carry out the responsibility for the identification of disadvantaged and handicapped students? Who is going to carry out the responsibility for monitoring the progress of disadvantaged and handicapped students? You have proposed to include in your project interlocking teams, teams that will meet weekly or bi-monthly to plan their curriculum. Who are you going to assign to see that this responsibility is carried out? Certainly, it is going to be something which you are going to assign, rather than something that you are personally going to try to look after. You said in the project that you are going to prepare educational prescriptions for severely disadvantaged and handicapped students. Who are you going to assign to do this? Who is going to coordinate the out-reach effort to work with dropouts? Who is going to coordinate this job placement effort? Who is going to coordinate this home visitation program? While the mechanics of these things might have been spelled out in the project, the staff assignments probably were not; so this is something in the way of initiation tasks that has to be done. Some of you talk about coordinating in-service yourself, and some of you assign it to the assistant principal or to one of your coordinators in the school; but it is something that has to be considered.

The second factor in the initiation tasks is scheduling. You have to have your own system of scheduling. You have simply got to get hold of the system that suits you. One of the things under scheduling is making sure that disadvantaged and handicapped students get into proper programs; and I am not really sure what I mean by proper programs, but I am talking about the CVAE or a PECE program at the seventh-, eighth-, or ninth-grade level. Your grade load at that level is so high that there is no possible way for you to get all students in it, so certainly you want to think about the percentage of disadvantaged and handicapped students that would take that program. We all recognize that the PECE program is not a project strictly for disadvantaged and handicapped students, but when you are scheduling and you have this problem, this is something to remember.

A third step is that of staff orientation and preparation, getting ready to get the project off the ground, orienting the total staff, orienting your advisory team. The advisory team approach on the project is certainly a good one. I have seen it work in a couple of schools, and this is where the principal actually delegates responsibility. He calls together a selected advisory team from the school, and then he assigns responsibility for carrying out these projects.

The next thing that is important to consider is that of follow-up or monitoring. The question here is: After I have completed my initiation tasks and got the ball rolling, how will I know that the project activities and responsibilities have been carried out? We feel that this procedure requires three steps.

The first one is some sort of feedback system to you. I think Dr. McGuffey uses the term "performance indicator"--how you know that the people that you assign to carry out these responsibilities are doing what they said they were going to do on a particular schedule. This may involve certain reports or certain checksheets. During our group discussion we have discussed the possibilitity of getting principals together and developing a checksheet, and the idea seems to be pretty well received. In your follow-through or monitoring, certainly you have to have a feedback system. You have to have some method for reviewing the progress of the project; maybe this is where you come back to your advisory team, or maybe this is what you assign for your advisory team, but it will be your responsibility to review this project on a quarterly basis and then to suggest directions or redirections. This would be where you would decide what needs to be done at that particular point.

Now I am going to go into a little example that I have prepared. This is not necessarily the best one in the world; but I did take one of the project objectives, the objective which said that the school should conduct at least one home visitation by a designated staff member to each student who is classified as severely disadvantaged or handicapped. We asked ourselves about the initiation task that has to be performed to get at this objective. In my own feeble way, I broke this up into some steps, and the first one was staff assignment. Just as an example, let me tell you what I did.

Step one, the PECE coordinator and the CVAE coordinator, two home ec teachers, one ag teacher, and the school counselor will identify from students classified as disadvantaged and handicapped in grades seven through twelve those considered to be high-risk potential dropouts. High-risk potential dropouts--I think you know what we are talking about--would be those students who are completely failing, who are overage, etc. The school counselor will head the identification team, will coordinate the record review and the team meetings. In other words, you as the principal will say to the counselor, "This is one of your jobs."

Step two, the designated staff members will develop a visitation program. The PECE coordinator will visit identified students in grade seven; one home ec teacher and CVAE coordinator will visit students identified in grades eight and nine; one home ec teacher, one agriculture teacher, and the school counselor will visit students in grades ten through twelve. Selected academic teachers from each subject area from each grade will make one visitation with one of the designated staff members. This last is not required, but it would get the academic teacher involved in this objective.

Step three, the visitation schedule will be submitted to the principal by the school counselor during the first month of school. The schedule will include names of students to be visited by each coordinator and the month of visitation. After you assign this responsibility to the counselor, hopefully the next contact you would have would be when that counselor hands you a sheet and says, "Here are the names of the people we are going to visit and when we are going to visit them."

Major scheduling, one of the things under initiation tasks, was not involved in here. Staff orientation might be applicable here in terms of inservice meetings when you want participants to describe what they are doing.

Each designated staff member making visits will be paid travel for conducting visitation from the D & H project fund. There should be a resource check to make sure that all staff members understand that they do have the opportunity of being paid travel pay.

Follow-up and monitoring is important. After you have the initiation task started, designated staff members conducting the visitation program will submit a monthly listing of visitations made by name and date, to be completed on one report and submitted by the counselor. So the counselor not only turns you in a list saying who is going to be visited and who is going to do it, but at the end of each month, or quarterly, he hands you another report saying who actually was visited. The principal or an assistant will review the number of visitations completed against master schedule. Retain records and documentation of activities; it is very important that these be kept in a central place where people can see files.

Now I want to go into some things that have to do with factors relating to creating readiness for this project. Certainly this involves some sort of concise overview and rationale for your staff, especially those that are going to be working with it. Providing a foundation for the project, presenting plans for implementation, getting a detail out so everyone knows what to expect, creating a climate positive for the project, not apologizing for expectations or goals or aims, recognizing achievement, work, and responsibility: all these are factors that motivate teachers. We now get into the subject of reward. Reward is important and has to be one of the main factors used in motivating people. Pay teachers extra money for doing extra work; you have money in your projects to pay teachers. Another important thing is to let the teachers share their ideas and help plan the projects.

Buy materials involved in the project. The CVAE program has done a good job of getting teachers to buy pertinent materials. The CVAE people have developed a "materials utilization chart." Teachers involved in the program identify the material and explain how they are going to use it.

Continue successful activities. If you have set up an activity that works, continue it on. Identify teachers who are seeking recognition. A lot of young teachers, especially when they first come into the field, look for this. Failure to recignize this may be a slight mistake in some cases, a terrible mistake in others.

Growth through involvement is a major factor in running any type of organization, school, or project. Involve the teachers in thinking through operational strategies. Involvement definitely changes attitudes. I think some of you who may have started off being critical when someone in your school was thinking of a project for your school got involved in it and picked it up and changed some attitudes.

These are some of the things that I thought you might be interested in. This is about all I have. We believe that if anybody in the state can do the job that we have been talking about this week it is you.

ALTERNATIVE PATTERNS OF SCHEDULING

Mr. R. T. Guillebeau

Principal, Cedartown High School
Cedartown

First of all, I should tell you a little bit about Cedartown High School. Then you can compare it to your school and see if what we are doing would fit. First of all, we are a comprehensive high school and we will have four T & I clusters--transportation, metal fabrication, electro-mechanical, construction. We also have a horticulture unit. We have all of the co-op programs--the DE, the DCT, and the VOT. We have home ec programs, and we have one of the largest business programs in the southeast (it is the largest FBLA program in the southeast). We are strictly vocational in Cedartown High School. When I say strictly vocational, I mean that we think this ought to be the dog instead of the tail in our school. I think a lot of other schools in the state of Georgia also need to go more vocational than academic.

All of us as administrators need to take a look at what we are teaching to see if we are offering students what they really want or merely what has been scheduled in our schools for the past fifteen years. I am not knocking anybody, but Cedartown High School year before last did away with a master schedule that had been active for fifteen years in that school. There had been no change made in the master schedule for fifteen years. Everybody knew exactly when they were going to teach what. I believe that the youngsters have changed a little bit in fifteen years. I think we all need to run a survey in each course area and find out exactly what we are teaching in our schools. For instance, in Cedartown High School this past year we had 108 per cent of our students taking English. That meant that some of them had registered for two English courses. We had 107 per cent taking social studies courses. Now, that was quite an academic load that our students were carrying. And only 20 per cent of them go to college. We had 127 dropouts in Cedartown High School in 1969-70; in 1970-71 we had 67 dropouts. Two of those 67 dropouts came from the vocational school, 65 from the academic courses; so we need to take a look at what we are teaching, and now we are trying to schedule what the students really want.

How many people are going to go to college out of your school? How many are actually going to get a job? I will guarantee you that just about every principal in here can tell me exactly how many kids he has going to college, but I will bet you that there is not one in here who can tell me how many seniors graduated and are going directly into the world of work. Not a one. How many of you know how many of your graduates are going to work? It is probably more difficult to come out of high school and go get a job than it is to come out of high school and come to the University of Georgia. So we need to start taking a look at what we are doing, and we need to start scheduling jobs for these people. I want you to know that the powers that be are talking about accountability, and we have to answer for what we do.

We expect to get rewards for the work that we do. That brings me down to the subject of scheduling. What is a schedule, and what is it for? First of all, I guess the main reason that we make a schedule--the administrator's reason--is so that we will have some place to put all of the 1200 people who walk through the door on the first day of school. You have some hole that you can stick them into. You know where everybody is going to go, and you know what they are going to do and what they are going to take. The teachers know who to expect and how to prepare for the people who are going to come into their classes. We have a good orderly process by which we can instruct youngsters.

Why does a student need a schedule? Let us stop and think about this for a minute. He is going to choose what he wants to study. Is this true or untrue? If you have been doing a traditional schedule, like most of us have, I rather doubt that he has chosen what he wants to study, because we have such a narrow curriculum that he probably has a little trouble understanding what he really wants to study within this. What we have to do is try to change the traditional schedule in some fashion to meet the needs of students. We have for years and years met the needs of administrators. We put a student in a classroom for a full year, and we expect this student to sit in that classroom for a full year, like it or not, sit still and behave himself and learn what the teacher puts out. I do not know whether this is right or not. Here at the University of Georgia, you are an adult; they let you change schedules every three months, and give you a break between them, every time. Yet a little old ninth grader is expected to choose for the whole year; and if he gets in there and he has a bad teacher, he has to put up with her for a whole year. Here at the University if you get a bad teacher, you think you can change in twelve weeks and probably can put up with anything for twelve weeks. You live with him for twelve weeks, and then you change. We do not let the high school student do that. We put him in a classroom and keep him there. If a student is unsuccessful in this classroom, we say, "Just sit back there and don't bother anybody." The teacher goes right on teaching the other twenty-nine and leaves that one back there by himself.

What are we going to try to do about these problems at Cedartown High School? First of all, we are going to reschedule every twelve weeks, exactly like they do in college. We feel that if a child goes into industrial arts and does not like it at the end of twelve weeks time, he can come out of there and go into something else. He can go into ag, he can go into horticulture, he can go into something else, every twelve weeks, if we can change his schedule.

We are going also to ability-group these kids. I think most of you are already ability-grouping people. We are going to ability-group and we are going to change groups every day until we get each student in the right place. We are going to have classes for high ability, average ability, and low ability; and then we are going to have heterogeneous classes so we can do some group teaching. We think this will help.

We are going to do some block scheduling, keep the same group of kids together all day. There may be three groups that we block schedule, but this is what we want to do. We will use teams of teachers to do this within the CVAE program.

We are going on the quarter system in grades seven through twelve. Our junior high school, of course, will have basic requirement preparation courses to get people ready for higher education. In the seventh grade, we are going to rotate every child in our school through the PECE program. Approximately 370 children in the seventh grade will be exposed to the PECE program. We are going to teach them a little art, a little public school music, and we are going to try to give them culture as it flows into the world of work at the seventh grade. Every twelve weeks we are going to rotate them in and out of these things. The seventh grader is not ready yet to make up his mind about what he wants to do, so we have to give him these exploratory courses.

At the eighth grade, we are going to have the home ec, business, and industrial arts; and again we are going to rotate these eighth graders through these three things, if they want to. They will not have to participate. They can get into industrial arts, and if they like industrial arts, they can stay in it for the full year. If they like the home ec, they can stay in it the full year. But if one does not like an area, he has an opportunity to move out and move into another area; this is exactly what we are trying to do, what we are going to do, on the junior high school level.

At junior high school, we use a rotating schedule. There is a double period first thing every morning, a two-hour block of time. The rest of the periods are one-hour blocks of time. This was borrowed from Whitfield County and adapted to Cedartown. All it is is rotating the periods through a double period first thing every morning. This is when people are fresh; teachers can teach for two hours, and students can absorb for two hours. We can schedule laboratory work and shop work and what have you. The last period on Friday is an activity period.

At the senior high school level, we have looked at several patterns, trying to put people into these; and, as bad as I hate to say it, we are using the traditional method rather than some two-hour blocks of time. But we are thinking about exploring and furthering that time period. All T & I programs will be two-hour programs. We are experimenting with a one-hour program, however. We can take six minutes off the first five periods of the day; that is an extra thirty-minute period, and the teacher, with a little bit of planning, can have the basic students going to work in the chemistry lab or whatever during this period. This is the simplest way I know of to extend your period so you can give them a little lab time. This would be good in your industrial arts program and also in your science program.

We are going to use traditions and alterations and use floating time going throughout our scheduling. We have contracted with Coosa Valley Tech to use their computer and their two computer operators to help us schedule people at Cedartown High School. They have written a program for the computer to meet our needs. I said, "I have to have one-hour blocks of time and two-hour blocks of time. I have to be able to say this kid and this kid must be together all day." They can fix it so certain children can be together all day. I also told them that we must be able to turn this thing over in three days time. Well, they swear they can do it in three days time; whether or not this is true, I just do not know. I am allowing six, with the hope that this can be done. But we will use the computer in order to schedule these things.

What do you have to do in order to get ready to use a computer for scheduling purposes? First of all, you have to have a common system of courses and a way you can identify special courses. You want special people in them. We use a six-digit number. I will just pick a number out of the hat--say 405010--and explain this thing. The first two digits identify the department; now 40 is our T & I identification number; this identifies our T & I program. That tells me right off that that thing is going to be a two-hour block of time. When that goes through the computer, that automatically makes that thing a two-hour block of time. The third number is grade level identification number. We use 1, 2, 3, 4 for grades 9, 10, 11, and 12, respectively. Five, two plus three, gives me a ten-eleven grouping.

In other words, people in the tenth and eleventh grades would normally be the ones who signed up for this course; that 5 tells me that. The fourth and fifth digits are the course numbers, and that means that we can have 99 different T & I courses and still get them on this thing. The sixth digit is an ability or difficulty number. One, two, three would be a high, medium, and low, respectively; and a zero means it is a heterogeneous group. This is where we do our group work. In order to change this from a two-hour block of time to a one-hour block of time, all I have to do is to change this sixth digit to "3"--405013. That means I have a sharp youngster taking transportation, and he is scheduled for one hour instead of two.

Then for each course you have to fill out a form, and you give the programmer the courses you are going to teach the first quarter, and he feeds them into the computer. This is imprinted on the tape. Then the student fills out a form.

We send people around to explain the program to every child in school. This takes up class time, but it is so important to schedule a student for what he wants that the classroom time can be sacrificed. He will make up for it next year when he gets what he really wants to have. I think it is tremendously important to tell these kids exactly what they are going to have.

Then we pass out course catalogs, and our course catalog lists about five hundred courses with descriptions of what it is going to cover. A history course may say it is going to cover a period from 1916 to 1945, including World War II; and it will explain what is going to be in there. This way the kid knows exactly what he is signing up for.

Then we pass out a projection sheet. Each department decides what courses they want to teach or what they can offer each quarter. This allows a youngster to choose his course for the first quarter, knowing what is going to be offered second quarter and third quarter; he can plan his program. He registers for only one quarter, but he can plan his program from our projection sheet.

Then the next thing we do is pass out the registration sheet, the SR-2. We leave this with him for a full week. He goes from classroom to classroom. If he goes into a T & I construction class and is a first-year student, he will ask that construction teacher to help him fill out his course schedule for the next year. You can say what you want to about guidance counseling, but if you have a school as big as mine there is no way for a guidance counselor to know all 1200 people. The person that is going to know that kid the best is the classroom teacher. The English teacher ought to be able to advise that student what English course he should select for next year better than anybody else in that school. So this is what we do; we let the English teacher advise the English student on what course he is going to take next year.

He fills out the card, blackens the numbers of the courses, and now is ready to be scheduled. That is all he has to do. He sticks that into the computer, and from there on it is the computer's responsibility.

All of these cards carry a priority block. If we want a pupil scheduled in a particular course, we put a priority one there; and that pupil goes in that course before anybody else. If you have a CVAE program and you want to set up a special English class, you put priority one on the CVAE students' cards, and those people go into a special English class before anybody else. We can do it that way, or we can change the number of the course. For instance, if we have a CVAE math course we identify that CVAE course with a 7, and every student in that program has a 7; and they are the only kids in the school that have that number. When they go to be scheduled, the only place they can be scheduled is where there is a course with a 7 on the end of the course number. We have an English course with a 7 on the end, a math course with a 7 on the end, and a social studies course with a 7 on the end; all those students automatically drop into that slot.

You may think this is going to make an awful lot of singletons. It is, but the singletons that you have worried about in the past have been your advanced math, science, and language students. You are talking about an entirely different group of people here. These are dropouts, people who are not interested in school and are going to drop out; so even though you have formed another group of singletons, it has not affected their schedule at all.

What do I get back from the computer to help me to make out a schedule? First of all, it gives me back a frequency distribution--how many people want to take construction, how many people that want to take Typing I, etc. This will determine the number of teachers we need. This is the point that scares me to death about the quarter system. Scheduling does not worry me at all; I think it can be done. The thing that worries me is that we must hire teachers at the beginning of the year. If we have a bad teacher in metal fabrication first quarter, we are not going to have too many people sign up for that course second quarter. And this is the bad part about it. What am I going to do with that teacher? I do not have any idea. I will fight that problem when I come to it. Of course, I think we ought to write a contract saying that if we do not have enough people sign up for a course we do not bring its teacher back; we might get a better job of teaching.

After we get the frequency distribution, the next thing I will get back from them is a conflict matrix, and this tells me how many students and what students take every singleton course. This tells me how to arrange those singletons on the master schedule where they will not be in conflict with each other. I make out the master schedule and send it back to the programmer; he runs everybody through it and finds a schedule. He sends me back a report showing where I need to change something. "You have about 150 people that we can't schedule." He runs another conflict matrix and tells me which 150 are in conflict and what courses they are in conflict with. Then I make the necessary changes. Then I send it back and he runs it back through again, and he sends it back saying, "You are doing better, but you still have about 50 with conflicts." He tells me who they are and what courses they want; and then I make another change and send it back. He does this three times for me; and then, the last time, he tries every conceivable way to schedule all the people who are in conflict. Then he sends those cards back and says, "These people do not fit in our schedule, and you have to make a change in their schedule for next year." We think we can narrow this down to a very small percentage. He will send me three student schedules--one for the student, one for the guidance counselor, and one for the central office staff. He will send me class rolls, the number of students and their names. How expensive is this? It is no more expensive than the McBee Key Sorter. It costs a little more to get your program written, but our program is already written if anybody is interested in it; and it can be used.

ACCOUNTABILITY: MANAGEMENT BY OBJECTIVES

Dr. Ronald Luckie

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Virtually everywhere I go people are telling me that education just is not making it, that we are just not getting the job done. I do not know that we ever have, but at this point in time nearly everybody is seemingly aware of it. I think that it is incumbent upon each of us to find ways to make education work.

Let me explain to you what I think accountability is, what I think management is, how both of these may be related to a technique called management by objectives. It is a technique, a way to manage things; it is also a way to establish accountability. I will not necessarily be relating this to vocational education. I do not think that is necessary because I think what I have to say is appropriate to almost everything that you deal with, including vocational education.

Accountability is a term with which each of you is familiar, and it essentially implies that we will be answerable for what we do. We have been accountable for a long time, but I think that we have sometimes been held accountable for the wrong things. When I think about what I thought I was accountable for as a principal, I realize that I was concerned about staff morale, community relations, keeping the building clean, maintaining some sort of equilibrium between the various extracurricular activities in the school, and trying to do something about curriculum, but mostly about something called pupil accounting. (All of these things are important, of course; the principal must be concerned about each of them.)

Today I would like to go a step beyond all that and indicate to you that I feel that what we should be accountable for is what we produce. We have been aware of this for a long time, but we have never considered ourselves accountable for it. We point with pride to the number of students who enter college, or point to some of the alumni of our schools who have been successful; but we never really think about what we are attempting to produce, what we are trying to achieve with the people who are entrusted to us. I think this is basically true of all of education and of almost all social enterprises, because we say so easily, "Well, you just can't determine exactly what we are doing. How do you decide when someone is educated? What are we responsible for?" For the first time in the history of this country the American public, your constituents so to speak, are saying, "What are you producing?" This is both refreshing and frightening. Out of this has come about an accountability movement.

Ours is an accountability, first of all, to the product of the educational institution, the student. When I first started teaching, it was my job to teach, and it was the student's job to learn. If one did not learn, it was not my fault; the child was accountable. The teacher was not accountable. The school was not accountable. The student was the one who was accountable. We are moving into an era where we are going to be held accountable, however, and it will be incumbent upon us to see that students learn.

Of course, I think the student will remain accountable, too.

When I look at the costs of education, I am somewhat appalled, because we compile some unusual costs. We compute things like per-pupil expenditures, as though every pupil had in fact received a satisfactory learning experience. We have never attempted to compute our wastes. If suddenly we become accountable for money on the basis of our successes, and only our successes rather than total numbers going through the process, we would have a frightening prospect ahead of us.

I would like to point out an interesting fact. Twelve thousand students a year in Georgia fail the first grade. At some point in time somebody is going to say, "Why do they fail? It is the school's job to see that they learn, not to fail them." I can recall that on occasions I would get upset about the number of failures in various schools where I worked. I recall a particular instance when a bright young man who had started teaching in the school, and who was a tremendous prospect as a teacher, failed 52 per cent of his students at the end of the first quarter. Being a fellow who did not like to talk to too many parents unnecessarily, I had a procedure whereby the department chairman reviewed all grades before they went on the report cards. If the department chairman had some question about them, he came to me, and I reviewed them. In this case, I received the grade analysis sheet with 52 per cent failures. So, I called the young man in and told him I would like to discuss this with him. I tried to be non-directive in my approach about this, because I did not want everybody in the school upset about the principal's changing grades. I said, "Why did you fail so many?"

He said, "Oh, I have to maintain my standards. I want to be a good teacher."

I said, "I sure want you to be, but I really wonder if failing 52 per cent of the students is going to make you a good teacher. Have you ever thought that maybe each one of those people who couldn't pass was your failure?"

"Oh, no," he said, "I presented the material to them. They just didn't do it, but they are going to know to do it in the future."

I said, "Well, I imagine they will. Let me ask you to do one thing for me. I want you to go to the five best teachers in this school--not in my opinion, but in your opinion; you pick the five best teachers--and say, 'How many students did you fail this quarter?'"

He said, "I'll be glad to do that. I guarantee you that I know the ones that maintain standards. I know the ones that are doing the job."

He came back to me the next day, walked into my office and said, "I need to talk to you." I asked him to go with me to get a cup of coffee. So, we went down and had a cup of coffee, and he said, "You know I went to the five best teachers in this school, and those five people didn't fail but an aggregate of eight students. (He had failed something like sixty-eight by himself.) Let me have that grade analysis sheet so I can go back over it."

I pass this story on to you, because I feel like failure is a failure on our part as well as on the student's part. It is perhaps a greater failure on our part. I think accountability is attempting to tell us that we are responsible for learning, not for teaching. I think management can help us arrive at ways to deal with these kinds of problems.

Some interesting things happened to me when I was attempting to learn to be a school administrator. I really never was taught anything about management, and there is no possible way I can do anything but review some brief functions of management and attempt to tell you what I think they are. To me there are two aspects of management, and I will try to explain them.

The first thing that I would like to discuss with you are the functions of management. To me, the major component, the most important facet, of management is making decisions. Certainly you have been making decisions for a long time, and you probably have had courses on decision making in which you learned a little bit more about the scientific method--defining the problem, etc.--of reaching a decision. But decision making is what management is all about. I would like to try to emphasize what I feel you should attempt to deal with most.

Essentially, there are four basic functions in management. The first is selecting goals or providing directions. The second function in management is determining plans and organizing, deciding how you are going to travel in the directions you have determined. Most frequently the direction is not stated but implicit, and quite frequently your plans are also implicit, not stated. The third area about which you make decisions is operations, the carrying out of schedules and plans that you have developed--operating them on a daily basis. You are making decisions about that constantly. In fact, that probably drives you up the wall. The fourth area is that of measuring performance; frequently we call it evaluation.

I know you do all of these things. Some of it is done intuitively. You make plans in some instances in a very systematic way and in some instances in a very nebulous sort of way. That will always be the case. You operate generally from one crisis to another; and you measure performance or evaluate most frequently on a very intuitive basis.

I would like to talk about each of these elements in more detail because it leads into the management by objectives concept. We select goals in education in a rather unusual way. We make goals about the institution; we decide what the institution is going to do. We will decide that we need more teachers or another counselor or five more assistant principals. These are really the kinds of goals that we state, the kinds of goals that we think about, the kinds of directions that we think about. We should also be involved in determining what students are expected to learn, and I would call that the product goal--a goal dealing with the product. You should provide direction in terms of what is expected of the product you are directing. When industry sets its goals, it does not set goals saying forty-two more lathe operators are needed. It says, "We are going to produce so much more of the product," and this is one reason that industry is better managed than education. We can say that industry deals with something concrete, whereas we deal with something rather undetermined. We need to determine what we should expect.

I have not gone into any kind of process--how we arrive at goals such as this. I will not attempt to, but I will say that I think you should involve students, teachers, and parents; and basically the goals that you select should be goals that are preparing students to live in our social order. This is where the goals should emanate. The State Department of Education has appointed a Goals Commission to specify what students should know when they finish high school in Georgia, and their report was adopted by the State Board of Education a little over a year ago. If you would like to have a copy of these goals, you can write me and I will send it to you. The goals attempt to deal with the society of Georgia in 1985.

Let me speak about plans for a moment. Too frequently, when we do not set proper goals, we do not know what to plan. We end up planning things that deal with teachers, facilities, and the kinds of processes that we carry out. Plans do have to deal with that, but the plan must know what it is attempting to accomplish--e.g., that we are going to teach fourteen more students remedial reading. Too often, we fail to say what we are trying to do. So, again, the goals are very important.

Here I think that you should look at possible alternative ways of meeting goals and objectives, and you should be able to specify what you expect to accomplish. This is where objectives are really developed. You should also determine how you are going to decide how well it was done, because if you do not do it here, there is no systematic way you can measure performance later on. You must always decide when you are developing your plan how you are going to evaluate it. This is another powerful reason for performance objectives.

Most of us are involved in crisis-oriented activities. We are continually reacting to crises, and we never seem to find the time to decide what we ought to do. Although I feel that you may do all four of these things, I think you do that one the most. It is a whole lot easier to deal with a crisis--it is right there--and after a while, you get to where you think you are pretty good at that. My problem was not selecting goals--deciding what we ought to be doing--but just seeing the people who want to see me, each one of them about some crisis, about a decision to be made. That goes back to my not delegating enough authority.

I would like to spend the rest of the time with you dealing with the measurement of performance. This is what I perceive management to be. Not everyone perceives it that way, but that is what I perceive the management function to be. Let me indicate to you that there is another aspect of management that I feel you should take into consideration. You find yourself as the manager of an institution in a tremendously difficult position, because you are having to deal with the institution and the individual in it--e.g., in the case of a principal, most frequently with the student and the teacher as individuals. Too often at the school level we are more concerned about what happens to the institution than about what happens to students. I think this is one of the reasons why youngsters are dropping out of school today. We are involved in institution management rather than product management.

At any rate, you as a manager are dealing with behavior, attempting to modify that behavior to reach certain goals, whether institution or product oriented. You are having to decide about the institution and about individuals. With the institution, you are attempting to define roles for people who are on the staff; that is part of your planning efforts, and you attempt to formalize that into a formal structure. In this formal structure, you have certain expectations about roles in the structure. You think that if you are doing a good job of planning your activities, certain things will happen. However, there is somebody that is opposed to that, diametrically opposed to that. The individuals you are attempting to work with and lead are not concerned about roles; they are concerned with personality development. The individual is not at all concerned about the formal structure; he is concerned about the informal structure. This is basically true, because he is not concerned with expectations but with the rewards that are going to be provided. This is true if you are dealing with students or teachers; it does not make any difference. When you are in any institution, you find yourself in conflict.

It is imperative, then, that when you define roles you attempt to define them in terms of the personalities of the people involved. I have heard people talking about organizing, saying that you should organize on the function, on the program, on the products--whatever you have to deal with. That is crazy! You organize on the basis of people, because the organization operates only in your head. Just because you can draw a chart does not mean that that thing is solidified to the end of the world. Organization should change as people change; organizational structure should change as people change. Of course, you can find more than one person who is satisfied with a particular role; you can find more than one way to organize; and you can find people who can fit into a formal structure that in fact approximates the informal structure. But studies done on situational leadership and organizational structure find the informal structure is that which gets the job done; formal structure really makes no difference, because it is strictly in the mind of the manager. The real structure is an informal one, so your job is to get the formal structure to approximate as closely as possible the informal one, the way in which people really work. I am reminded of a course I took in school building planning in which the professor said, "Build your schools and don't put down any walkways. After the first year when you see where the paths are, you know where to pave." In a sense organizing is this kind of function. You have to decide what informal path is getting the job done and then more or less formalize it so people can understand it and communication can be carried out.

Furthermore, everybody wants rewards. You can provide untold rewards, and again this is involved in management by objectives. Accountability must deal with expectations, but for expectations to be met they can never be greater than the rewards received by the individuals, both monetarily and psychologically. Probably the most important rewards are the psychological rewards. I once worked for a man who just about worked me to death. I was dragging when I got home at twelve o'clock every night. It was unbelievable the way that man worked me; but although it was the least amount of money I have ever been paid, I enjoyed it as much as anything I have ever done, because he made me continually believe that I was the greatest thing in the world. Of course, everybody else on the job was feeling the same way, too. Definitely, have expectations, but at the same time make some provision for rewards.

If you do not have expectations, there is no way to receive psychological rewards. I can give you another example from my own experience. I once worked for a man who would come up to you and say, "Man, you are doing a good job." I knew, though, that he had no idea what I was doing, so I thought he was crazy. So unless you specify expectations, you really cannot provide rewards. Of course, this is the way I think you attempt to meet your goals.

Not only is management concerned with certain functions about making decisions, but it is also concerned with the human element of the institution and the individual. Management by objectives is a technique using each of these kinds of concepts, encompassing each in an effort to identify (1) what you are trying to do, (2) the expectations of the people involved in the institution, and (3) how you will know when it has been accomplished. I am going to try to go through a particular process for management by objectives, and I think the procedure I am going to give you outlines those basic principles, although there are some other procedures to management by objectives.

First of all, you set goals, determine direction. You start by identifying the major goals that you are trying to accomplish. In education that is what you expect students to learn.

The second factor is determining your needs. Let me define what I mean here. I am not talking about your crises. I am talking about your goals minus your current status, so you have to determine not only what your goals are but where you are now in terms of achieving those goals. I think you can have goals that are related to the institution as well as to the product. Essentially there are two kinds of goals--product goals and enterprise or institutional goals. In determining needs, you essentially try to ascertain where you are in terms of meeting the goals that you have established.

Let me add that I think you need to write down your goals. When schools are accredited by some kind of association you have to determine your philosophy in a statement to that association. That to me is just about the most ridiculous thing that I have ever heard, because philosophy deals with three major questions--what is good, what is valuable, and what is true. And that does not give you too much direction, does it? We completely ignore it anyway; we really state some goals as our philosophy. I can recall that in every school that I have ever worked one part of the philosophy statement for the Southern Association was: "We are going to educate every child or student to the utmost of his ability, to his greatest potential." I agree with that. I am in tremendous sympathy with that. If we did not fail a student in this state, next year we could afford two more years of school. That is unbelievable, is it not? If all of a sudden the government, the legislature, the State Board of Education, or your local school system were to say, "It is against the law to fail a youngster in school," we would save that kind of money. Do you realize that there are only eleven school systems in this state with more than twelve thousand students, yet we fail that many in the first grade every year. That upsets me.

The next thing that you need to do in relationship to your own particular situation is to set objectives for the school. These objectives should reflect the goals in terms of what you decided your needs are in light of where you are.

Next you should attempt to set task objectives for performance of individuals, including yourself. You should decide what the performance expectations of the individuals should be. I'll try to get to how you might do that in a moment.

Finally, the teachers need to set particular objectives for individual students. This should be done collectively.

Going back to goal setting, I want to mention a decision of the State Department of Education. In the division where I work, we needed goals for Georgia. We tried to talk to the rest of the people in the department about it, and we spoke to our planning council, which is made up of all the division directors. When we presented this concept to the planning council, several people said, "Man, we haven't any right to set the goals. We don't want to do that. We don't want to tell anybody what he has to do. That is not democratic. Don't start deciding what people ought to do and what people ought to know, because then you are determining what their basic personalities are." We need to limit what we can do. In this regard, read the article in the March (1971) issue of the Phi Delta Kappa by Burt Friedman, who deals with this particular issue and says that education needs to sit down and decide what it can do, do a good job of it, and quit fooling around thinking it can solve all the world's problems. He expounds this beautifully, and I would recommend this particular article to you.

We have done a peculiar thing in education, and this is one reason why I sometimes fall out with people involved with curriculum. We have delegated what children learn entirely to teachers. I am certainly not opposed to teachers, but I am opposed to the fact that goals in education are set in forty-five-thousand classrooms in this state. What does the teacher teach? He usually teaches whatever he wants to teach. In curriculum courses they used to say you cannot change curriculum until you change the teachers.

I agree with that concept, but I think that it is our responsibility to know what is expected of teachers. What the student should learn should not be left up to the individual teacher. This is a responsibility for the school administration, which sets the goals for education. The community does not set them; they decide on the alternatives. Basically, they decide on how much money you are going to get. But it is our job to find a way to educate the students of this nation, this state, this school system, this school, with the amount of money we have.

The setting of objectives for individual students is the final aspect of management by objectives, and it should relate to what we expect the students to learn. We play the most ridiculous game with students. We tell them all kinds of things, and then we have them second-guessing what we really want them to know. From kindergarten all the way to doctoral study we fail to tell students what we expect them to know. One of the big things in college is stealing the test. Stealing the test ought not to be necessary; students ought to know what the test is going to cover.

I think there are certain guidelines for setting performance objectives. The objectives for an individual should be mutually agreed upon by the superior and the subordinate. The principal and the teacher should mutually agree on what that objective is. This goes back to ideas concerning expectations and rewards. Second, the individual should understand exactly what is required to meet the objective. This goes back to my remark about testing. Third, objectives should be set well in advance of the time period they are to cover. You cannot set the objective halfway through an activity and expect that objective to be met. Fourth, the amount to be accomplished by an individual should be attainable. The amount of what we are attempting to accomplish in education is unattainable, probably not by the total social order, but certainly by one particular portion of it. It is important, then, that the expectations or the objectives can in fact be accomplished. Fifth, objectives should require improvement of performance on a regular basis. "We've met this milestone; now, let's go a little further."

There are some basic characteristics of objectives that I would like to mention that will help you arrive at these considerations. First, the objective should specify what you expect to accomplish during a given period of time. It should include the target group. Secondly, the time that you would expect it to be accomplished must be stated. Third, it should be measurable. Most frequently, the objective itself will supply the measurement. It should define the activity.

I would like to share with you some examples of objectives: institutional objectives, individual performance objectives, and student performance objectives. These are just examples, attempting to carry out the things I mentioned above.

Let us say, for instance, that we say that we would like to provide learning experiences so that each student understands the topography of Georgia. This is a very simple kind of objective, implied or stated. An individual performance objective for a teacher might be to assure that 80 per cent of the eighth-grade students in his fifth period Georgia history class can identify the five major rivers in Georgia by December 1. The institutional objective is long range, and the time span is really kind of unimportant, because you really cannot measure that except in terms of performance objectives. But you can measure that individual performance objective for that teacher. The test for the student is to be able to identify the five major rivers of Georgia by December 1. The test is a very simple thing: can this student do that? If he can do that, he is successful. If he cannot, then the teacher says, "Let's go back and see what you have to do in order to be able to identify those five major rivers." I have reports from several schools, especially elementary schools, that have moved into this kind of activity in terms of how they are attempting to develop curriculum, and I am pleased with that.

Let me move back to management by objectives and what I think you can accomplish. One of the basic problems of management in education is that we never have delegated authority and responsibility. Most frequently we say, "Okay, the principal is responsible for the school." I do not know what that means; there are no objectives for him; he doesn't know when he has accomplished them. We also say, "We've got an able staff down here." I once maintained the philosophy, as a principal, that my major job was to assure that teachers were able to teach. Now I would change that philosophy to say that I think the job of a principal is not to assure that the teachers are able to teach but to assure that youngsters are able to learn. And that is quite a different thing.

Besides teachers, a principal has under him various isolated personnel, and a number of support personnel, the custodial staff, librarians, counselors, etc. Here is where the water hits the wheel. There really is no way to manage all this.

One very simple principle of management is that one person cannot supervise more than five or seven people on a constant, on-going, reporting basis. The span of management just does not stretch much farther. Yet at one time I had approximately ninety teachers answering to me. You need to organize in such a way that you have people whom you can hold responsible for certain objectives. For management by objectives to work you should try to delegate some responsibility.

Finally, when you get down to the teacher level, you have to recognize that the teachers in the classrooms can manage only one student at a time, because learning happens that way--one at a time. So, you have to devise a way for individual instruction. I throw that in because I think that it is imperative that school superintendents and principals think of ways of delegating authority, especially for the activity of learning in the school. They probably delegate authority about some things but feel a little lost about how to delegate authority in the area of instruction. I think you need to find ways to do that. You must actually delegate the authority--not just the responsibility. You must specify expectations and the authority to carry out expectations. Then you have a way of rewarding a person and of making that person accountable. That is management.

A MANAGEMENT STRATEGY FOR PRODUCING CURRICULUM CHANGE

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Introduction

When I think about this whole matter of bringing about change, I am reminded of a question put to a friend and his response to that question. The question and his response were:

"Has your wife changed very much since you married her?"
"And how! My habits, my friends, my hours...."

We live in an era of educational change. Throughout the country teachers are beginning to ask, "Who needs a principal?" The feeling is that the principal causes more problems than he helps to solve. He is more of a hindrance than a help. Teacher unions are growing like fields of wild poppies. And, speaking of poppies, pupils in the schools have changed the life of the school principal. The principal has to contend with the drug scene and the problems that accompany it, the counter-culture movement and its defiance of dress and grooming customs. Parents want administrators and teachers to be accountable but do not want to give adequate funds for anything beyond a bare minimum program. A federal government, after starving public education for decades, suddenly wonders what has happened to the billions of dollars it has just recently poured into education. Change is taking place all about us. Many of us are almost punch-drunk from its effects.

"Has education changed very much since you became a principal?"
"And how! My habits, my friends, my hours...."

"Future Shock" is the way that Alvin Toffler (1970, p. 11) describes it in his book by that name.

> Future shock is a time phenomenon, a product of the greatly accelerated rate of change in society. It arises from the superimposition of a new culture on an old one. It is culture shock in one's own society. But its impact is far worse. For most Peace Corps men, in fact most travelers, have the comforting knowledge that the culture they left behind will be there to return to. The victim of future shock does not.
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> Future shock is the dizzying disorientation brought on by the premature arrival of the future. It may well be the most important disease of tomorrow.

Inadequacy of the Present Situation

Toffler (1970, p. 342) claims that what passes for education today, even in our best schools and colleges, is a hopeless anachronism. He says (p. 343) that mass education was the ingenious machine constructed by industrialism to produce the kinds of adults it needed. Industrialism presented the educational institution with the problem of pre-adapting children for the world of industrialism, a world of competitive toil, smoke, noise, machines, crowded living conditions, collective discipline, a world in which time was to be conserved and regulated by the factory whistle and the clock. Toffler (1970, p. 344) states:

> The solution was an educational system that, in its very structure, simulated this new world. This system did not emerge instantly. Even today it retains throwback elements from preindustrial society. Yet the whole idea of assembling masses of students (raw material) to be processed by teachers (workers) in a centrally located school (factory) was a stroke of industrial genius. The whole administrative hierarchy of education, as it grew up, followed the model of industrial bureaucracy. The very organization of knowledge into permanent disciplines was grounded on industrial assumptions. Children marched from place to place and sat in assigned stations. Bells rang to announce changes of time.
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> The inner life of the school thus became an anticipatory mirror, a perfect introduction to industrial society. The most criticized features of education today--the regimentation, lack of individualization, the rigid systems of seating, grouping, grading and marking, the authoritarian role of the teacher--are precisely those that make mass public education so effective for its place and time.

For many of us the need for a new super-industrial education is evident but only possible if we once more shift our time-bias forward.

Our school bureaucratic structure and its goal of adapting children to an anachronistic industrial world is causing us to develop strategies for change. Bennis (1966, p. 9) claims that bureaucracy thrives in a highly competitive, undifferentiated, and stable environment, such as the climate of its youth, the Industrial Revolution. Bennis further reports that a pyramidal structure of authority, with power concentrated in the hands of a few who have the knowledge and resources to control an entire enterprise was, and is, an eminently suitable social arrangement for routinized tasks and periods without change. But he goes on to say that the environment has changed and that one factor accelerating change is the growth of science, research, and development activities and of intellectual technology. His argument, to summarize quickly, is that: "It is the requirement of adaptability to the environment which leads to the predicted demise of bureaucracy and the collapse of management as we know it now (Bennis, 1966, p. 10)."

Toffler (1970, p. 124) believes that each age produces a form of organization appropriate to its own tempo. Thus, during the long period of agricultural civilization, societies were marked by their slow rate of change. Because of delays in transportation and communication, information moved at a relatively slow pace. Individuals and organizations were seldom called upon to make what we would regard as high-speed decisions. The age of industrialism brought a quickened tempo to life. During this period bureaucratic forms of organization seemed suited to making better decisions than the loose organizational, almost patriarchal forms which preceded them. What, then, will organizations of the future look like and what strategies will be necessary to cope with the problems with which they will have to deal?

The organizations of the future will increasingly challenge and ultimately supplant bureaucracy. Toffler (1970, p. 109) calls this form of organization, "Ad-hocracy." According to Bennis the key word for organizations of the future will be "temporary." Adaptive, rapidly changing systems will be organized around problems-to-be-solved. Groups will evolve in response to the problem rather than programmed role expectations. "The function of the 'executive' thus becomes coordinator, or 'linking-pin' between various project groups. People will be differentiated not vertically according to rank and role but flexibly according to skill and professional training (Bennis, 1966, p. 12)."

The process of change is indeed upon us. Schools, like other institutions in American society, are in the position of "ready or not you shall be caught." Educational innovation has been riding a wave of concern the like of which we have never seen. Innovations of every sort are being advocated, disregarded, tried out, revised, and adopted. Teachers, administrators, board members, students, parents, foundations, accrediting agencies, and officials at every level of government are pressing for reform in the schools. The bureaucratic structure of the school system is creaking and cracking at the joints. What is needed by those of us responsible for providing leadership in the schools is a management strategy for producing change.

Organizational Development Defined

Beckhard (1969, p. 7) reports that most progressive managers today are deeply concerned with developing strategies to manage change. Managers in today's world can be reactive to environmental demands or they can be proactive, i.e., shape the environment. In being proactive it is necessary to seek ways to establish a climate in which increasingly complex decisions can be made by people with the information regardless of their position in the organization. Beckhard (1969, p. 7) further feels that managers are seeking ways to establish a work climate in which increasingly complex technologies can be managed and in which people who have an ever higher sense of freedom and autonomy can be encouraged to want to stay and work. Organization development is the name that Beckhard and others are attaching to total-system, planned-change efforts for coping with some of the just-mentioned problems facing managers.

Lewin (1958, pp. 197-211) laid the groundwork for an evolving managerial change strategy called organizational development when he developed the notion that individual and group change is most effective when norms and standards regulating member behavior are changed. It seems that when a norm is changed individuals change their behavior to conform to the newly established norms. An example of this would be how people of different races behaved when the dual school system was the norm, in contrast to how the same people responded under new norms which accompanied integration. Thus, the initial focus in organizational development is normative change. Bennis (1969, p. 2) in his book Organization Development: Its Nature, Origins and Prospects defines organization development (OD) as a response to change, a complex educational strategy intended to change the beliefs, attitudes, values, and structure of organizations so that they can better adapt to new technologies, markets, and challenges and the dizzying rate of change itself.

Bennis (1969, pp. 10-15) describes the major characteristics of organizational development as follows:

1. It is an educational strategy adopted to bring about a planned organizational change. Whatever the strategy OD almost always concentrates on changing norms, ways of believing and operating.
2. The changes sought are tied directly with a recognized problem with which the organization is dealing.

   - a. problems of destiny--identity--growth--revitalization
   - b. problems of human satisfaction and development
   - c. problems of organizational effectiveness

3. OD relies on an educational strategy which emphasizes field action based behavior. Experience based methods are used to:
   - a. generate data relating to the problem
   - b. feed back data to relevant groups
   - c. plan action on the basis of data
4. Because the external consultant can manage to affect the power structure in a way that most internal change agents cannot, change agents are for the most part, but not exclusively, external to the client system.
5. OD implies a collaborative relationship between change agents and the client system. Collaboration involves mutual trust, joint determination of goals and means, and high mutual influence.
6. OD change agents usually share a social philosophy, a set of values about the world in general and human organizations in particular which shape their strategies, determine their interventions, and largely govern their responses to client systems.
7. The seventh major characteristic is that change agents usually share a set of normative goals. Those goals most commonly sought are:
   - a. better organizational interpersonal relationships
   - b. a shift in traditional values which usually stress getting the job done even at the risk of ignoring feelings to a set of values which includes feelings
   - c. development of increased understanding between and among people in order to reduce tensions
   - d. development of more effective team management
   - e. development of more open and rational methods of dealing with organizational conflict rather than relying on more traditional autocratic methods
   - f. development of organic rather than mechanical systems. Organic systems are characterized by high degrees of:
     - (1) relationships between and among groups
     - (2) mutual confidence and trust
     - (3) interdependence and shared responsibility
     - (4) multigroup membership and responsibility
     - (5) wide sharing of responsibility and control
     - (6) conflict resolution through bargaining or problem-solving

Bennis (1969, p. 17) states the case for organizational development by saying:

> The basic value underlying all organization-development theory and practice is that of choice. Through focused attention and through the collection and feedback of relevant data to relevant people, more choices become available and hence better decisions are made. That is essentially what organization development is: an educational strategy employing the widest possible means of experience-based behavior in order to achieve more and better organizational choices in a highly turbulent world.

Organizational Development: An Illustration of a Management Strategy for Producing Change

During the past year the speaker was called upon by a school system in Georgia to work out cooperatively an educational strategy to bring about a planned change, i.e., to improve the system's program at the elementary level.

An organization development approach was outlined and agreed upon. In previous work the speaker had established a relationship which carried with it a high degree of trust and collaboration. In this previous relationship, formation of a system-wide steering committee had been organized. This steering committee was composed of administrative, central office, service, and teacher personnel with some representation from every school in the system. An attempt was also made to provide racial balance on the committee. Advisory to the steering committee were a student and a parent committee. A special elementary planning committee was appointed from members of the steering committee to work with the change agent on developing an educational strategy to bring about an improved elementary school program.

It was with the elementary planning committee that goals and means for the OD program were formulated. It was also about this time that the pamphlet published by the Georgia State Education Department (1970), Goals for Education in Georgia, became available. The introduction of this pamphlet says:

> The Georgia Board of Education, which is responsible for public elementary, secondary, adult and vocational education, initiated the Georgia Assessment Project (GAP) in January 1969. GAP is designed to provide statewide measurement of the progress of Georgia's children and youth toward the achievement of those qualities necessary to live successfully in the Georgia and United States of 1985 and beyond.
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> To initiate GAP, the State Board of Education appointed 11 distinguished Georgians to an Advisory Commission on Education Goals. The Commission members were selected on the basis of their broad collective experience in many areas of Georgia life and include by occupation a federal judge, two university presidents, a physician, two industrialists, a banker, an attorney, two business executives and a former president of the Georgia Congress of Parents and Teachers.
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> ...To assist the Commission with these tasks, highly qualified specialists prepared 19 position papers about Georgia's current status and probable status in 1985 with respect to the social, economic, technological, political and cultural environment.

It was as a direct outgrowth of the work described above that statements of goals for education in Georgia were formulated. These statements of goals were organized under the following major headings: The Individual and Himself; The Individual and Others; The Individual and the Governing Process; The Individual and Social and Economic Institutions; The Individual and His Physical Environment; The Individual at Work; and The Individual at Leisure.

It was obvious to the elementary planning committee and the change agent that it would be impossible to implement all of the goals developed by the State Department of Education. The change agent had already begun the development of a survey instrument which would establish priorities for educational goals. The committee felt that such an instrument based upon goals for education in Georgia would provide necessary data upon which an improvement program could be developed.

The system-wide steering committee and its advisory committees agreed to the idea, and the School Program Bonanza Game (Figure 1) was developed and given to all (1,974) fourth, fifth, and sixth grade pupils in the school system. These pupils took the game home for their parents to play and all first grade parents were invited to their school to play the game. In all, 2,220 parents played the Bonanza Game. All professional staff associated with the elementary schools (234) also played.

The data were computerized and fed back to each school. Data were given to each principal working with a committee from his school. These data described the curriculum priorities and the overall ratings for the existing curriculum emphases for the system as a whole and for each principal's own school program. The data reports provide breakdowns on many levels, but particular attention was given to parent, staff, and student analyses. The school committee is charged with the responsibility of selecting a manageable number of program areas which the data suggest are of high priority and in the judgment of the committee need to be improved. The first task of the committees was to select areas for improvement, then to develop plans and estimate resources necessary to carry them out. The elementary planning committee reviews improvement plans, makes suggestions, coordinates, provides whatever help they can, and keeps the steering committee and its student and parent advisory committees informed as to what is being planned and carried out in the school system.

In order to understand better the organizational development approach used in the situation described above, it may be helpful to look at the survey instrument used and some of the data available through its use.

The School Program Bonanza Game

The basic idea for the format of the game came from a report on a transportation survey reported in a London trade journal called the Economist, May 1970 issue. The nine categories used in the game were mainly derived from the Goals for Education in Georgia pamphlet. These nine categories are 1) the 3 R's, 2) the Social World, 3) the Physical World, 4) the Work World, 5) the Arts, 6) Health, Physical Development, and Safety, 7) Making Choices, 8) Relationships with Others, and 9) Development of Self. Under each category there are three illustrated choices. The first choices cost nothing and typically involve a choice of little guarantee that the activity will receive a planned emphasis in the school program. The second or middle choices cost a medium amount of money (medium in that the cost is usually half the cost of the third choice) and typically involve a choice of medium or middle range intensity of guarantee, very often a functional approach to school program. The third or last choices cost the most and typically involve a choice of greatest intensity in each area. For example in the first category, "the 3 R's," the illustrated choices are:

a. Learn the 3 R's from need or interest
   (a cartoon drawing of a young man fixing a car while he is reading a "How to" book)
   0 clips $ 0
b. Learn enough of the 3 R's to do OK, to get along in the world
   (a cartoon drawing of a young man in the library reading books from the "How to Fix It, Get a Job, Build" shelves)
   3 clips $ 300
c. Learn 3 R's well enough to be prepared to get into college
   (a cartoon drawing of a young man in a cap and gown reading a letter

of acceptance from a college)
6 clips $ 600

The instructions for the game are as follows:

> Suppose that your school has just been given enough money to let each parent, student and teacher spend $2,000 for school program improvements. Also, suppose that the top row of pictures (the first picture in each area) is the way your school has been before you got the improvement money. In this game you have 20 paper clips and each clip is worth $100.
>
> The idea is to decide where you will spend your $2,000. (Place your 20 paper clips.) The middle squares cost 2 or 3 paper clips ($200 or $300) and the bottom squares or choices cost 3, 4, 5, or 6 paper clips. ($300, $400, $500 or $600.)
>
> Since you must put the exact number of paper clips or money called for in each square, you do not have enough clips (money) to make improvements in each area of the school program. Spend your money to improve those parts of the program you value most.
>
> If you have any paper clips left over and do not have enough to put the exact number called for in a square, then clip the left-over ones to your answer sheet.
>
> FOLLOW THESE STEPS
>
> 1. Fill out the information part of the answer sheet.
> 2. Start with the 3 R's--read and look at the pictures in each area from TOP TO BOTTOM.
> 3. Spend your $2,000 (20 clips).
> 4. Change your choices until you are satisfied that you are getting what you want.
> 5. Mark answers on the answer sheet.

The game forces one to make preferences on the basis of priorities. It is simple to administer and to play. Any amount of help can be given with the exception that the player has to place the paper clips unassisted. There was not one instance reported where there was any but minor difficulty in playing the Bonanza Game.

Scoring and Reporting the Data. The scoring procedure used was one developed and reported by Gerald Hoinville (1971, pp. 33-50), co-director of the Social and Community Planning Research Institute in London, England. If 4,425 persons responded in the first category--the 3 R's--in the following fashion, then their scores would be figured so:

1. The 3 R's

%		n	$ spent		
20%	a.	854	(0)	X 3 =	2562
33%	b.	1454	(3 or $300)	X 2 =	2908
47%	c.	2120	(6 or $600)	X 1 =	2120
Total		4425			7590

$$\frac{7590}{4425} = 1.71$$

Scores were developed for the rating (poor, average, good) of each category in the same fashion as illustrated above. As can be seen in the above procedure, if all 4,425 respondents had placed their money or gem clips in the $600 (College Prep) emphasis of the 3-R category, then the score would have been 1.00. If all 4,425 respondents had placed their gem clips in the $300 (Learn Enough of the 3 R's to Get Along in the World) emphasis, then the score would have been 2.00. If none of the respondents had placed gem clips in this area and had checked $0 then the score for that category would have been 3.00. Using this scoring procedure the categories can be ranked in order of priorities. The category with the lowest score would indicate that more of the respondents checked (c) and/or (b) than (a). Inversely, the category with the highest score would indicate that more of the respondents checked (a) (did not spend any money) than (b) and/or (c). So too on the rating side: the more respondents who checked good as a rating for that category the closer the score would be to 1.00.

The data are analyzed and reported in many different ways, but the analyses most manageable and usable immediately are those for the overall system and for the individual school. Summary information giving frequency, percentages, and scores are given for totals and by positions. Attached you will find these kinds of summary data for the system and for an individual school.

Working with the data, decisions can be made to work on high priority areas rated poorly, on areas which show large discrepancies as far as priorities are concerned, on areas which the races or sexes are in conflict about, or on any other alternative as decided upon by the people involved. Although every school has contributed to the overall system data, each school can look at its own data and individualize the school improvement program.

Summary

Although in the particular case described in the preceding section much attention has been given to the School Program Bonanza Game, it is not my intention to give the impression that OD depends upon the use of this instrument. Organizational Development is a process embodying the characteristics described by Bennis earlier in this paper.

In serving as an OD change agent in other school systems I have developed instruments to gather data particular to the recognized problem to be dealt with. In one school system where the problem identified was desegregation, the first step in gathering data was the use of interviews and group meetings, to discover what concerns, fears, and problems people in the system felt were associated with the desegregation problem. These concerns, fears, and problems were categorized and converted into a survey instrument to discover the intensity of the problems. The desegregation instrument was administered, and on the basis of data analyses on system and individual school levels training programs were devised and interventions implemented.

Another instrument for OD work which I have developed is an instrument adapted from Likert's (1967, pp. 197-211) "Profile of Organizational Characteristics." This instrument is called "School Organizational Development Questionnaire." The School Organizational Development Questionnaire (SODQ) can be administered to students in the seventh grade through the twelfth grade, all certified staff, and all non-certified staff. It measures organizational health in regard to the following categories:

1. Leadership Processes
2. Motivational Forces
3. Communication Processes
4. Interaction-Influence Processes
5. Decision-Making Processes
6. Goal Setting

7. Control Processes
8. Performance and Training

Again, a system of scoring has been developed which permits system and individual school analyses to pinpoint which processes are causing the most trouble and with which groups (students, certified staff, non-certified staff, by race, by age, and by sex). From the data, intervention programs can be planned and a readministration of the instrument can determine progress made.

In summary, organizational development is an emerging management strategy which is action-research oriented. It is a process which can be used to attack any organizational problem in the schools. It is a process that is gaining wide acceptance in industrial management and beginning to be used by school systems throughout the country to remedy the problems inherent in our bureaucratic school structures which were developed in response to a need to train people for an industrial society. Today in the super-industrial society which is emerging in the United States we are seeing our school systems under heavy attack because they have not been able to adapt fast enough to deal with the disease of tomorrow--the disease of FUTURE SHOCK. If we adopt the management strategy of organizational development we may yet survive the crisis.

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Toffler, A. Future Shock, New York: Random House, 1970.

School Program BONANZA GAME

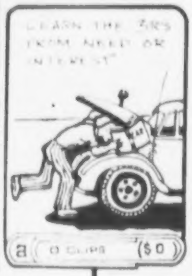
BUY THE KIND OF SCHOOL PROGRAM EMPHASIS ***YOU*** WANT!

DIRECTIONS:

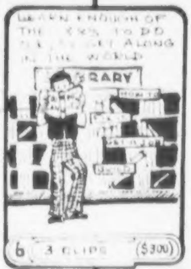
- SUPPOSE THAT YOUR SCHOOL HAS JUST BEEN GIVEN ENOUGH MONEY TO LET EACH PARENT, STUDENT AND TEACHER SPEND $2,000 FOR SCHOOL PROGRAM IMPROVEMENTS. ALSO, SUPPOSE THAT THE TOP ROW OF PICTURES (THE FIRST PICTURE IN EACH AREA) IS THE WAY YOUR SCHOOL HAS BEEN BEFORE YOU GOT THE IMPROVEMENT MONEY. IN THIS GAME YOU HAVE 20 PAPER CLIPS AND EACH CLIP IS WORTH $100.
- THE IDEA IS TO DECIDE WHERE YOU WILL SPEND YOUR $2,000. (PLACE YOUR 20 PAPER CLIPS). THE MIDDLE SQUARES COST 2 OR 3 PAPER CLIPS ($200 OR $300) AND THE BOTTOM SQUARES OR CHOICES COST 3, 4, 5, OR 6 PAPER CLIPS ($300, $400, $500 OR $600).
- SINCE YOU MUST PUT THE EXACT NUMBER OF PAPER CLIPS OR MONEY CALLED FOR IN EACH SQUARE, YOU DO NOT HAVE ENOUGH CLIPS (MONEY) TO MAKE IMPROVEMENTS IN EACH AREA OF THE SCHOOL PROGRAM. SPEND YOUR MONEY TO IMPROVE THOSE PARTS OF THE PROGRAM YOU VALUE MOST.
- IF YOU HAVE ANY PAPER CLIPS LEFT OVER AND DO NOT HAVE ENOUGH TO PUT THE EXACT NUMBER CALLED FOR IN A SQUARE, THEN CLIP THE LEFT-OVER ONES TO YOUR ANSWER SHEET.
- FOLLOW THESE STEPS:

1. FILL OUT INFORMATION PART OF ANSWER SHEET
2. START WITH THE 3R'S—READ AND LOOK AT THE PICTURES IN EACH AREA FROM TOP TO BOTTOM
3. SPEND YOUR $2,000 (20 CLIPS)
4. CHANGE YOUR CHOICES UNTIL YOU ARE SATISFIED THAT YOU ARE GETTING WHAT YOU WANT
5. MARK ANSWERS ON ANSWER SHEET

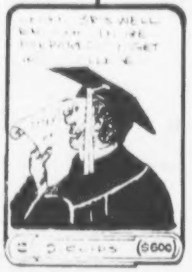
1. THE 3 R'S
READING, 'RITING AND 'RITHMETIC


LEARN THE 3R'S FROM NEED OR INTEREST

a 0 CLIPS ($0)

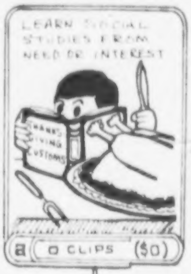

LEARN ENOUGH OF THE 3R'S TO DO WELL, TO GET ALONG IN THE WORLD

b 3 CLIPS ($300)

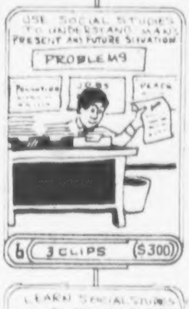

LEARN 3R'S WELL ENOUGH TO BE PREPARED TO GET INTO COLLEGE

c 6 CLIPS ($600)

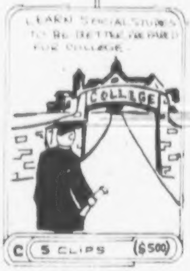
2. THE SOCIAL WORLD
SOCIAL STUDIES


LEARN SOCIAL STUDIES FROM NEED OR INTEREST

a 0 CLIPS ($0)

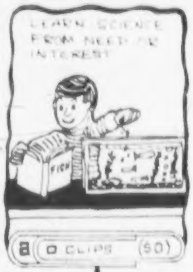

USE SOCIAL STUDIES TO UNDERSTAND MAN'S PRESENT AND FUTURE SITUATION

b 3 CLIPS ($300)

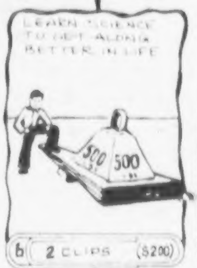

LEARN SOCIAL STUDIES TO BE BETTER PREPARED FOR COLLEGE.

c 5 CLIPS ($500)

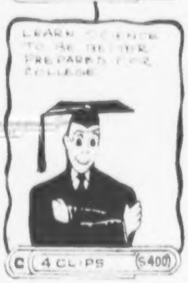
3. THE PHYSICAL WORLD
SCIENCE


LEARN SCIENCE FROM NEED OR INTEREST

a 0 CLIPS ($0)

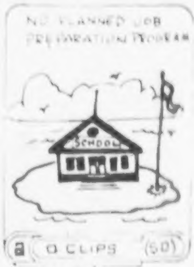

LEARN SCIENCE TO GET ALONG BETTER IN LIFE

b 2 CLIPS ($200)

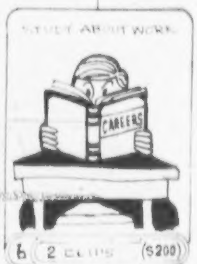

LEARN SCIENCE TO BE BETTER PREPARED FOR COLLEGE

c 4 CLIPS ($400)

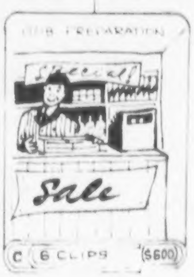
4. THE WORK WORLD
VOCATIONAL


NO PLANNED JOB PREPARATION PROGRAM

a 0 CLIPS ($0)

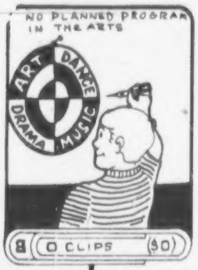

STUDY ABOUT WORK

b 2 CLIPS ($200)

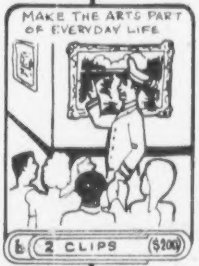

JOB PREPARATION

c 6 CLIPS ($600)

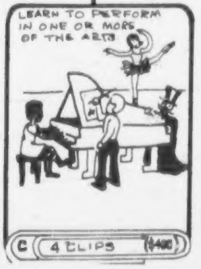
5. THE ARTS
MUSIC, ART, DRAMA, DANCE


NO PLANNED PROGRAM IN THE ARTS

a 0 CLIPS ($0)

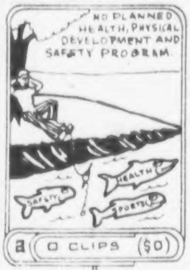

MAKE THE ARTS PART OF EVERYDAY LIFE

b 2 CLIPS ($200)

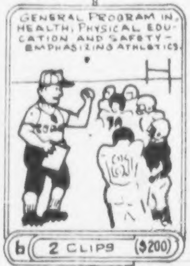

LEARN TO PERFORM IN ONE OR MORE OF THE ARTS

c 4 CLIPS ($400)

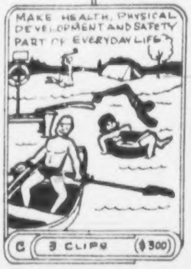
6. HEALTH, PHYSICAL DEVELOPMENT AND SAFETY


NO PLANNED HEALTH, PHYSICAL DEVELOPMENT AND SAFETY PROGRAM

a 0 CLIPS ($0)

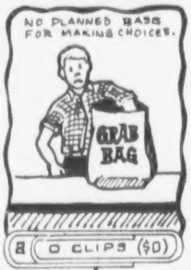

GENERAL PROGRAM IN HEALTH, PHYSICAL EDUCATION AND SAFETY—EMPHASIZING ATHLETICS.

b 2 CLIPS ($200)

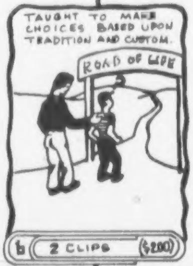

MAKE HEALTH, PHYSICAL DEVELOPMENT AND SAFETY PART OF EVERYDAY LIFE

c 3 CLIPS ($300)

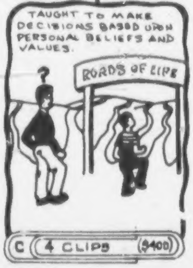
7. MAKING CHOICES


NO PLANNED BASIS FOR MAKING CHOICES.

a 0 CLIPS ($0)

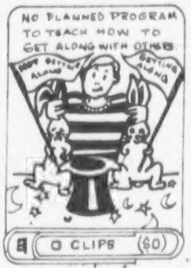

TAUGHT TO MAKE CHOICES BASED UPON TRADITION AND CUSTOM.

b 2 CLIPS ($200)

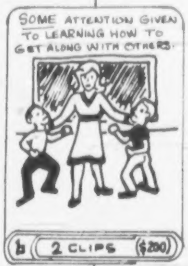

TAUGHT TO MAKE DECISIONS BASED UPON PERSONAL BELIEFS AND VALUES.

c 4 CLIPS ($400)

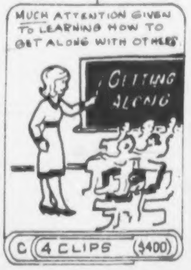
8. RELATIONSHIPS WITH OTHERS


NO PLANNED PROGRAM TO TEACH HOW TO GET ALONG WITH OTHERS.

a 0 CLIPS ($0)

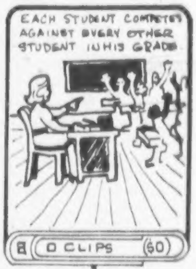

SOME ATTENTION GIVEN TO LEARNING HOW TO GET ALONG WITH OTHERS.

b 2 CLIPS ($200)

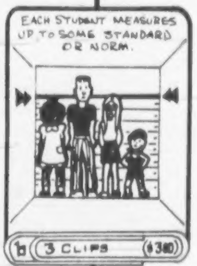

MUCH ATTENTION GIVEN TO LEARNING HOW TO GET ALONG WITH OTHERS.

c 4 CLIPS ($400)

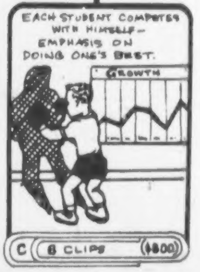
9. DEVELOPMENT OF SELF


EACH STUDENT COMPETES AGAINST EVERY OTHER STUDENT IN HIS GRADE

a 0 CLIPS ($0)


EACH STUDENT MEASURES UP TO SOME STANDARD OR NORM.

b 3 CLIPS ($300)


EACH STUDENT COMPETES WITH HIMSELF—EMPHASIS ON DOING ONE'S BEST.

c 6 CLIPS ($600)

EXAMPLE 1

LOCAL SCHOOL ANALYSIS

(Parents, Students, Staff) N-453

Priorities						Ratings				
System	Local School	Parents	Students	Staff	Variables	System	Local School	Parents	Students	Staff
1.71	1.70	1.62	1.77	1.95	1. The 3 R's	1.65	1.58	1.70	1.40	1.58
2.07	1.98	2.03	1.87	2.49	2. Social Studies	1.73	1.70	1.75	1.64	1.68
2.01	2.03	2.06	1.94	2.42	3. Science	1.77	1.70	1.75	1.58	2.05
2.09	2.10	1.99	2.20	2.79	4. Work	1.98	1.86	1.89	1.78	2.47
2.30	2.17	2.14	2.22	2.21	5. The Arts	1.89	1.67	1.79	1.43	2.32
1.87	1.76	1.78	1.79	1.32	6. Health, Phys. Devel.	1.73	1.64	1.72	1.50	1.74
2.17	2.14	2.06	2.27	2.16	7. Making Choices	1.95	1.83	1.92	1.69	1.84
2.06	1.92	1.99	1.87	1.42	8. Relationships	1.82	1.65	1.72	1.56	1.58
2.26	2.17	2.01	2.43	1.74	9. Devel. of Self	1.80	1.69	1.78	1.54	1.79

EXAMPLE 2

LOCAL SCHOOL ANALYSIS

Parents, Students, Staff N-453

	Priorities		Ratings
1.70	The 3 R's	1.58	The 3 R's
1.76	Health, Phys. Devel.	1.64	Health, Phys. Devel.
1.92	Relationships	1.65	Relationships
1.98	Social Studies	1.67	The Arts
2.03	Science	1.69	Devel. of Self
2.10	Work	1.70	Science
2.14	Making Choices	1.70	Social Studies
2.17	The Arts	1.83	Making Choices
2.17	Devel. of Self	1.86	Work

Parents N-264

	Priorities		Ratings
1.62	The 3 R's	1.70	The 3 R's
1.78	Health, Phys. Devel.	1.72	Health, Phys. Devel.
1.99	Relationships	1.72	Relationships
1.99	Work	1.75	Social Studies
2.01	Devel. of Self	1.75	Science
2.03	Social Studies	1.78	Devel. of Self
2.06	Science	1.79	The Arts
2.06	Making Choices	1.89	Work
2.14	The Arts	1.92	Making Choices

Students N-170

	Priorities		Ratings
1.77	The 3 R's	1.40	The 3 R's
1.79	Health, Phys. Devel.	1.43	The Arts
1.87	Social Studies	1.50	Health, Phys. Devel.
1.87	Relationships	1.54	Devel. of Self
1.94	Science	1.56	Relationships
2.20	Work	1.58	Science
2.22	The Arts	1.64	Social Studies
2.27	Making Choices	1.69	Making Choices
2.43	Devel. of Self	1.78	Work

Staff N-19

	Priorities		Ratings
1.32	Health, Phys. Devel.	1.58	The 3 R's
1.42	Relationships	1.58	Relationships
1.74	Devel. of Self	1.68	Social Studies
1.95	The 3 R's	1.74	Health, Phys. Devel.
2.16	Making Choices	1.79	Devel. of Self
2.21	The Arts	1.84	Making Choices
2.42	Science	2.05	Science
2.49	Social Studies	2.32	The Arts
2.79	Work	2.47	Work

INSTITUTE EVALUATION

CAREER EDUCATION AND THE PRINCIPAL

This instrument is intended to aid in the evaluation of the Institute for Principals. Please answer questions and indicate your reactions to the best of your ability. You are not asked to sign your name.

1. Indicate your position of responsibility. Check One.
   48 A. Principal
   4 B. Assistant Principal
   8 C. Other

2. Indicate the days on which you attended the Institute sessions.
   59 Tuesday
   60 Wednesday
   60 Thursday
   59 Friday
   ___ Saturday
   26 No. Evening Sessions

3. Living accommodations on campus were:
   28 Excellent
   10 Good
   6 Comfortable
   ___ Poor
   ___ Terrible

4. The extent to which the central purpose of the Institute was accomplished was:
   36 Excellent
   15 Good
   7 Adequate
   ___ Poor
   ___ Failed Completely

5. In terms of value to your school program, the content of the presentations made during the Institute was:
   41 Extremely Relevant
   18 Mildly Relevant
   ___ Not Relevant

6. Indicate on the scale provided the extent to which you think the Institute accomplished its specific objectives. Circle one after each objective.

	Poorly	Moderately	Extensively
A. Helped me to become more knowledgeable about the need for career education in the public schools.	0	20	40
B. Assisted in improving my understanding of the intent, nature, and structure of career education.	0	22	38
C. Contributed to a deeper and wider acquaintanceship with new developments in career education.	0	16	43
D. Helped me to gain more insight into the developmental nature of career education.	1	14	45

	Poorly	Moderately	Extensively
E. Contributed to a better understanding of the components and the role of a developmental program in career education.	1	26	34
F. Contributed to a better understanding of the major elements and processes of new directions in career education.	1	19	40
G. Helped me to become aware of and acquainted with exemplary programs in career education.	2	24	34
H. Helped me more clearly to define my role in creating a climate for the development of career education in my school.	0	28	32
I. Will help in the preparation of a plan to improve career education in my school.	0	24	35
J. Helped me to understand new patterns for scheduling students.	4	36	20
K. Helped me better to comprehend the meaning of accountability and how to apply it.	6	34	20
L. Assisted me in understanding strategies for producing curriculum change.	1	35	22

7. I am fully committed to change the curriculum in my school so as to improve career education and the total school program.

46 Yes

4 No

8. In terms of other factors the Institute was: (Circle One)

	Poor	Average	Good	Excellent
A. Planning	0	2	15	43
B. Organization	0	3	15	40
C. Management	0	0	15	43
D. Sequence of Presentations	0	4	23	32
E. Opportunities for Discussion	0	4	12	42

	Too Short	Satisfactory	Too Long
F. Length	1	49	9

9. What should the Institute staff have done differently that would have improved it?

A. More discussion time.
B. More information on actual programs in existence.
C. More specific guidance for group sessions.
D. Shorter periods.
E. More speakers from the field.
F. Larger room.
G. More introductory remarks regarding what is to be done in Institute.
H. Less time in group meetings.
I. More exciting discussion groups (boring).
J. More comfortable room for large group meetings.

K. Longer periods (group sessions).
L. More background information (didn't understand concepts and terminology).
M. More members of individual school staff brought together.
N. Use role playing.
O. Provide simulated career educational curriculums.
P. Provide practical application of successful methods in use.
Q. Involve more principals in discussion.

10. My overall rating of the Institute is: (Circle One)

Poor	Average	Good	Excellent
0	0	21	38

11. What suggestion do you have for a follow-up of this Institute?
A. Continue the Institute.
B. Make copies of speeches available to enrollees.
C. Have superintendents, principals, and curriculum directors meet together for sessions.
D. Plan a joint conference of principals and vocational directors.
E. Survey participants to determine needs.
F. Organize the Institute along lines of vertical organization in schools.
G. Mail composites of conference to participants.
H. Provide specialists to assist local systems in implementation.
I. Distribute State Department rules concerning programs.
J. Check to see if schools are implementing program as a result of the conference.
K. Seek more direction and better leadership in conferences.
L. Develop different conference sections for rural, suburban, and urban schools.
M. Let participation in all sessions earn three hours without the paper.
N. Provide a one-day follow-up session in mid-year to evaluate progress.
O. Include teachers.
P. Provide a list of schools with various vocational programs.
Q. Provide time at conference to discuss forms and paper work.
R. Schedule regional meetings.

EVALUATION FORM

PRINCIPAL'S INSTITUTE

	Before Institute			After Institute		
	None	A Little	A Lot	None	A Little	A Lot
1. Knowledge of the need for Career Education.	5	43	12	0	3	56
2. Knowledge of the role of Career Education in total school program.	10	41	7	0	5	53
3. Understanding of the elements that make up a sequential developmental program in Career Education.	16	40	4	0	19	39
4. Understanding of the intent, nature and structure of Career Education.	8	47	3	0	14	43
5. Awareness of the new directions in Career Education.	12	41	6	0	14	46
6. Knowledge of my role in improving Career Education.	11	43	6	0	14	43
7. Knowledge about interlocking the curriculum.	15	41	4	0	16	42
8. Knowledge of types of programs that contribute to a developmental program in Career Education.	10	46	3	1	19	39
9. Knowledge of the emerging curriculum patterns for Career Education in the total school program.	17	37	4	0	19	39
10. Understanding of the cluster concept of Career Education.	15	38	5	2	16	42
11. Knowledge of managing the school's class schedule.	8	42	7	3	24	33
12. Understanding management by objectives.	18	36	5	0	28	30
13. Understanding means for curriculum change.	4	43	10	0	23	35

END